

# Environmental and Social Monitoring Report

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Project Number: 43903-014  
Annual Report (January–December 2020)  
March 2021

## Pakistan: Uch-II Power Project

Prepared by Uch-II Power (Private) Limited for the Asian Development Bank.

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**OPERATIONAL PHASE  
ENVIRONMENTAL AND SOCIAL MONITORING REPORT  
FY-2020**

**(January 01, 2020 – December 31, 2020)**



<b>TABLE OF CONTENTS</b>	<b>PAGE</b>
<b>A. Project/Business Name and Summary Information</b>	<b>3</b>
<b>B. Relevant Environmental Permits or Compliance Certificates</b>	<b>3</b>
<b>C. Incidents of Violations or Non-Compliance</b>	<b>3</b>
<b>D. Incidents of Environmental and Safety Accidents</b>	<b>3</b>
<b>E. Labour Relations and Conditions</b>	<b>3</b>
<b>F. Environmental Capacity</b>	<b>4</b>
<b>G. Stakeholder Consultation/CSR Activities</b>	<b>4</b>
<b>H. Issues, Status of Implementation of Mitigating Measures in the Environmental and Social Management Plan and Compliance with Environmental Qualities and Standards (national and international, as relevant) and Environmental and Social Requirements</b>	<b>5</b>
<b>I. Summary Assessment of Client Performance and Recommendations</b>	<b>7</b>
<b>a. <u>Positive Achievements:</u></b>	<b>7</b>
<b>J. Acronyms</b>	<b>9</b>
<b>K. Appendices</b>	
<b>Appendix. A</b>	<b>10</b>
<b>Appendix.B</b>	<b>13</b>
<b>Appendix.B-1</b>	<b>19</b>
<b>Appendix.C</b>	<b>20</b>
<b>Appendix.C-1</b>	<b>23</b>
<b>Appendix.D</b>	<b>26</b>
<b>Appendix.E</b>	<b>27</b>
<b>Appendix.F</b>	<b>33</b>
<b>Appendix.G</b>	<b>38</b>
<b>Appendix.H</b>	<b>39</b>
<b>Appendix.I</b>	<b>40</b>
<b>Appendix.J</b>	<b>41</b>
<b>Appendix.K</b>	<b>46</b>
<b>Appendix.L</b>	<b>77</b>
<b>Appendix.M</b>	<b>79</b>
<b>Appendix.N</b>	<b>88</b>

A Project/Business Name and Summary Information		
Development of 404 MW Gas Fired Combined Cycle Power Plant by Uch-II Power (Private) Limited		
(i)	Location of project/business	Dera Murad Jamali, Baluchistan, Pakistan
(ii)	Nature	Operation & Maintenance of low BTU gas fired combined cycle power plant.
(iii)	Scale/size	404 MW (ISO Gross Rating) 2 Gas Turbines x 01 Steam Turbine
(iv)	Date of construction/operation commencement	Construction activities commenced in July 2011. Project achieved Commercial Operation Date (COD) on April 4, 2014. after successful completion of Reliability Run Test on April 3, 2014
(v)	Name, designation and signature of person responsible for preparing/reviewing the report	Fida Muhammad Khan, Manager HSE Uch-II / Waseem Ellahi Plant General Manager
B Relevant Environmental Permits or Compliance Certificates		
(i)	Summary of permit conditions & media(s) covered	"No Objection Certificate issued by BEPA"
(ii)	Issue by which government Agency	Baluchistan Environmental Protection Agency (BEPA)
(iii)	Issuance date and duration of validity	December 9, 2010 – BEPA also issued Confirmation of compliance under PEPA Regulation 2000 in April 2014. Copy of BEPA confirmation of compliance attached as Appendix-H.
(iv)	Renewal requirements	None
C Incidents of Violations or Non-Compliance		
(i)	Recorded date and responsible agencies	None in Year 2020
(ii)	Nature of non-compliance	No reportable incident to authorities recorded during year 2020
(iii)	Violation or non-compliance based on what environmental standards and regulations	N/A
(iv)	Recorded dates and authorities	During the year 2020, EHS related observations of minor nature recorded during routine site monitoring. Log with corrective actions attached as Appendix A.
(v)	Media or community reactions (if any)	None in year 2020
(vi)	Corrective actions, deadlines, identification of responsible parties	Short term corrective actions identified through regular site H&S walks. Please refer to Appendix A.
	(a) short-term: remedial action	Please refer to Appendix A
	(b) long-term: preventative measures	None in year 2020
D Incidents of Environmental and Safety Accidents		
(i)	Incident recorded dates and responsible agencies,	a) No incident or injury reported in year 2020. Attached Appendix-L describes Health Safety & Environmental Leading and Lagging indicators.
(ii)	Scale of damage and injury (if any)	a) No incident or injury reported in year 2020.
(iii)	Authorities in charge of investigation/recording	Uch-II Management responsible for recording and investigation.
(iv)	Media or community reactions (if any)	None in year 2020
(v)	Corrective actions, deadlines, identification of responsible parties	None in year 2020
	(a) short-term: remedial action	None in year 2020
	(b) long-term: preventative measures	None in year 2020
E Labour Relations and Conditions		
(i)	Nature of labour dispute or grievance	None in year 2020
(ii)	Legal requirements, Permit conditions and renewal requirements	None in year 2020
(iii)	Authorities in charge of	Uch-II Management responsible for recording and investigation.

	<i>investigation/recording</i>	
(iv)	<i>Media or community reactions (if any)</i>	None in year 2020
(v)	<i>Corrective actions, deadlines, identification of responsible parties</i>	N/A
(vi)	<i>Labour relations and living conditions for construction labour force</i>	Project construction phase is completed and all EPC labour demobilized.
<b>F</b>	<b>Environmental Capacity</b>	
(i)	<i>Staff capacities in environmental management (as relevant)</i>	<p>Uch-II O&amp;M Environmental Staff Consists of;</p> <ul style="list-style-type: none"> <li>(i) 01 Manager HSE</li> <li>(ii) 01 Senior Manager Operations</li> <li>(iii) 01 Manager Operations</li> <li>(iv) 01 Manager Admin / PR</li> <li>(v) 01 Manager Colony &amp; Security</li> <li>(vi) 01 Manager HR</li> <li>(vii) 01 Deputy Manager Chemical (Effluent treatment, analysis &amp; Spill Response)</li> <li>(viii) 01 Assistant Manager HSE</li> <li>(ix) 01 HSE Officer</li> <li>(x) 03 Senior Chemists (Effluent treatment, analysis &amp; Spill Response)</li> <li>(xi) 01 Chemical Assistants (Effluent treatment &amp; Spill Response)</li> </ul> <ul style="list-style-type: none"> <li>• Dedicated total 13 Personnel</li> <li>• Overall organizational structure of Uch-II O&amp;M Environmental and social team and Health &amp; Safety team is attached as Appendix-G.</li> </ul>
(ii)	<i>Degree of awareness of: (i) environmental management, (ii) health and safety, (iii) environmental laws and regulations</i>	Project O&M phase H&S Management plan and all other Environmental applicable & relevant Laws and regulations orientation to O&M team on regular basis. Owner (Uch-II) project HSE department continues managing O&M phase. Very well updated on all the relevant HSE laws and regulations.
(iii)	<i>Training programs carried out</i>	<p>Training and awareness sessions on Work At Height Related Hazards, Stand By Man (SBM) for Confined Spaces, UPL Safety Rules Training Session, Heat Related Illness, First Aid Refresher Training, Health Awareness Session on Coronavirus outbreak and personal hygiene were carried out with O&amp;M and Contractor staff.</p> <ul style="list-style-type: none"> <li>• Pre Job TBTs conducted on regular basis.</li> <li>• Weekly Fire drills performed by O&amp;M Team</li> <li>• Pre Job Point of Work Risk Assessment conducted on regular basis.</li> </ul> <p>Record of Trainings conducted in 2020 by topic and number of attendees. Detail is attached as Appendix-N</p>
(iv)	<i>Needs assessment of environmental management capacity (as relevant)</i>	All positions filled as per O&M staffing plan.
(v)	<i>Compliance audits carried out</i>	<p>Surveillance Audit of ISO 14001 was conducted by 3rd party in year 2020</p> <p>Corporate Environmental Audit was conducted by 3rd party in year 2020</p>
<b>G</b>	<b>Stakeholder Consultation/CSR Activities</b>	
(i)	<i>Details of consultations, if any, with local communities, nongovernmental organizations, civil society groups, and other stakeholders, including affected people</i>	<p>The program is focused towards health, education, promotion of sports and relief efforts during natural calamities. Every year, Uch continues to fund its recurring initiatives to sustain its CSR investments besides undertaking new projects to ensure continued development of the area.</p> <p>In 2020, the local district administration was engaged mostly via telephonic correspondence at the onset of the pandemic in Pakistan. While support was maintained for existing projects new initiative was only towards COVID-19 relief including providing ration bags for the local community, PPE for frontline health workers of local district, funding efforts of the local district government to raise public awareness for prevention from coronavirus and helping disinfect areas of public gathering while also making contributions to relief funds constituted by the federal and</p>

		provincial governments.	
		For 2021, we plan to carry on our interactions with COVID-19 safety protocols in place until the situation improves. Please find attached correspondence with local district administration wherein CSR requests have been made with the company which will be executed in 2021 in Appendix-M	
(ii)	Describe efforts to promote community relations and local development for inhabitants of the project area.	<p>No communities located in the vicinity of the project had to migrate or were affected by the setup. In 2020, Uch spent in excess of US\$ 531,000 on its CSR initiatives.</p> <p>During the year, Uch continued to support its flagship programs, which include:</p> <ol style="list-style-type: none"><li>1. Three (3) Primary and one (1) Secondary schools built in collaboration with The Citizens Foundation (TCF) that have an enrollment of over 1,500 students from Dera Murad Jamali (DMJ) and adjacent areas.</li><li>2. A fourteen (14) bed fully equipped modern Emergency Care Center at the DHQ Hospital, Dera Murad Jamali.</li><li>3. Twelve (12) water filtration plants that provide clean drinking water to over thirty thousand (30,000) people daily.</li><li>4. Separately an agreement for establishment of Community Eye Health Center (CEHC) at the District Headquarter (DHQ) Hospital DMJ was signed between Uch and Layton Rahmatulla Benevolent Trust (LRBT), a non-governmental organization (NGO) fighting blindness in Pakistan. Under the three year agreement, CEHC is providing free eye treatment to the local community including checkups, medicines and surgeries. Over eighty five hundred (8,500) patients visited the clinic for free check ups and six fifty (650) free surgeries were performed at the nearest LRBT facilities. Uch also provided free transportation for the surgeries.</li></ol> <p>Uch continued its need based higher education scholarship program for Balochistan domiciled students. Under this initiative, forty six (46) students enrolled in Bolan Medical College, BUET Khuzdar, NUST and IBA Sukkur were awarded scholarships. Uch is in the process of developing a 12 bed female ward in the DHQ Hospital DMJ. The facility layout development and workflow designing has been done after a comprehensive needs assessment. The construction will be carried out in 2020 and 2021.</p> <p>Uch, under the extraordinary COVID-19 situation, has made a special contribution of Rs.54 million to the ongoing Corona virus relief efforts by donating Rs.24.1 million to the Prime Minister Pandemic Relief Fund, Rs.12 million to Government of Balochistan Corona Virus Emergency Fund, distribution of 3000 ration packs among vulnerable families facing economic hardship and donation of personal protective equipment (PPE) and medical supplies to District health facilities and frontline health workers of District Nasirabad.</p>	
(iii)	Project procedures for (a) hiring and (b) acquisition of goods and services	UPL prefers hiring human resource from local area at all levels. Attached Appendix-I provided the local - Balochistan staff ratio at UPL site (including O&M employees & contractors staff).	
(iv)	Provide List of grievances and status of grievance resolution	None in year 2020	
H	Issues, Status of Implementation of Mitigating Measures in the Environmental and Social Management Plan and Compliance with Environmental Qualities and Standards (national and international, as relevant) and Environmental and Social Requirements		
	Parameter	Issue	Status
I	Air	None	Gas Turbines Stack emissions monitored through CEMS. Air Emissions data (HRSGs stacks) for year 2020 is attached as Appendix-B. Results of ambient air quality and annual vehicles exhaust emission testing for year 2020 are being provided as an Appendix-B.



2	Water (surface and ground water)	None	Overall compliance with EMP (as applicable against specific parameters) in place. Attached is Appendix C, indicating water consumption data for year 2020. Waste water generated is treated at water treatment plant and waste water treatment plant before disposal to evaporation pond. A brief description of waste water treatment is provided in Appendix C. Attached Appendix C-I indicate waste water qualitative and quantitative data for year 2020.
3	Waste generation and management	None	Solid waste managed through onsite land fill for Bio degradable and household waste. Recyclable waste provided to recycling contractor. Solid waste record indicated in Appendix-D for year 2020.
4	Noise and vibration	Plant high noise areas highlighted	<p>Plant noise monitoring data (ambient &amp; occupational noise levels) for year 2020 is indicated in Appendix-E.</p> <p>Many measures taken since settlement with EPC Contractor in 2016 for resolving high noise levels in different areas.</p> <ul style="list-style-type: none"> <li>(i) CCR noise level reduced and brought under the limits by proper sealing of doors and windows, Air-conditioning ducting etc, by O&amp;M team. The matter was resolved successfully.</li> <li>(ii) Alignment and greasing of pumps with higher noise levels.</li> <li>(iii) The areas where noise could not be sufficiently brought under the limits is CW Pumps area where 3 main cooling water pumps and 2 auxiliary cooling water pumps are located. These pumps are in a below grade pit covered by roof where resonance and background noise contribute a lot.</li> <li>(iv) A careful assessment performed to verify the exposure of personnel to high noise in 2016 and noticed that O&amp;M staff exposure is way too little as compared to the standard industrial noise exposure levels of 85dBA 8 hours exposure. In normal daily routine the operator use to visit these areas two times a shift only for maximum 10 minutes, while wearing ear protection i.e. Ear muffs which fully protect them against this hazard.</li> <li>(v) The areas of high noise were declared as "<u>High Noise Area – Use of Ear muffers Mandatory</u>" Safety Signs fixed as a control measure for O&amp;M team and contractors to use ear muffs while working or moving around that area. Pictorials of area showing safety signs available in Appendix-E</li> <li>(vi) A RoSPA (Royal Society for Prevention of Accidents-UK) and CPD certified online interactive training modules specific to Noise Awareness are regularly received by O&amp;M staff. A wide range of these online certified training are regularly conducted for all staff as indicated in Section-I of this report. A total of 1612 hours training received by</li> </ul>

			<p>staff including two modules related to noise awareness.</p> <p>(vii) Attached Appendix-E shows trained staff list and some recent training certificates of O&amp;M staff.</p> <p>(viii) Lastly, the noise level at plant boundary is well under limits.</p>
5	<i>Occupational health and safety</i>	None	<p>Monitoring of Health &amp; Safety Key performance Indicators by Uch-II in place.</p> <p>Well-equipped UPL Site medical center with Medical officer and 02 nurses available 24/7 for medical treatment &amp; emergencies. Annual medical surveillance program for UPL employees in place.</p>
6	<i>Community safety and security</i>	None	<p>Community safety during road travel is ensured through driver's awareness and training program. The non-local staff within the boundary wall of power plant sensitized for taking care of local norms and customs and avoiding unnecessary interaction with local community.</p>
7	<i>CO<sub>2</sub> emissions by the Project</i>		<p>CO<sub>2</sub> emissions data indicated in Appendix-B for year 2020. Methodology for computation of the CO<sub>2</sub> produced by the plant is provided in the Appendix-B).</p>
8	<i>Environmental and Social Management Plan, including IFC E&amp;S Action Plan (September 29, 2010)</i>		<p>Project H&amp;S plan and EMP implementation and monitoring maintained throughout project phase. Attached Appendix-F summarizes the compliance status of mitigation measures for E&amp;S plan for Operational Phase for the period under review. (Ref Table 4-2 of EIA and Table 6-3 of EMP, both tables integrated into Appendix-F to avoid repetition of issues).</p>

## I Summary Assessment of Client Performance and Recommendations

Project Commercial Operation commenced on April 4, 2014 after completion of Reliability Run Test on April 3, 2014.  
Total Power Generation for year 2020 remained 2104.522 GWh.

### Positive Achievements:

- No environmental incident / breach reported in year-2020;
- Uch-II achieved a milestone of 2.0 million safe manhours;
- Uch-II Power Private Limited retain the certification of ISO 9001:2015, 14001:2015 & ISO 45001:2018;
- Uch-II Complex Outage 2020 successfully concluded without any significant health, safety or environmental incident;
- Management Safety Moments performed on "Environment Management" topic by Plant Manager Mr. Waseem Ellahi which reveals a clear and visible demonstration of management commitment towards Health & Safety;
- A remote Managerial Safety Visit (MSV) was conducted by Mr. Suresh Bhaskar (MESCOT - Business Development Manager) on COVID-19 Prevention measures at UCH Power and appreciated the efforts taken by Uch Power for addressing the COVID-19 challenges in an efficient manner.
- OHS Management System ISO 45001:2018 Certification, Quality Management System ISO 9001:2015 Certification & Environmental Management System ISO 14001:2015 Certification maintained;
- HSE trainings were provided to the employees and contractor staff on regular basis by utilizing internal and external resources. 772 face-to-face trainings hours were recorded. 25 trainings on different HSE topics were delivered to



employees & contractors. Records attached in appendix-N

- All received OEF (Operating Experience Flash) from region circulated to the site and shared with employees and contractors for raising awareness and achieving feedbacks to prevent the occurrences of similar accident at Uch Power. Feedback forms of all received OEF were also completed and shared with regional HSE team;
- ENGIE Environment Reporting campaign for year 2020 was successfully concluded for Uch-II Power by providing the Environment Indicators data into EARTH Reporting Portal;
- Environmental Audit of Uch-II Power was conducted by Ernst & Young (EY) remotely. No major findings reported;
- O&M staff completed online Instinct & Safety Media training modules accumulating 1,612 training hours;
- Multiple awareness sessions on Heat Stroke & basic First Aid were provided to employees & contractor to combat high heat index during summer. Additionally, Industrial Work Umbrella, Cooling Towel & Cooling Neckband also provided;
- Unsafe Acts (UA) / Unsafe Conditions (UC) closeout rate at year-end was recorded 99.2%, which exceeded the internal and regional target of 95% by 4.2%.

## Acronyms

BEPA	Balochistan Environmental Protection Agency
CCR	Central Control Room
COD	Commercial Operation Date
CO <sub>2</sub>	Carbon Dioxide
dB	Decibel
ECC	Emergency Care Center
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
PEPA	Pakistan Environment Protection Agency
EPC	Engineering Procurement Construction
ESAP	Environment and Social Action Plan
E&S	Environmental and Social
GOB	Government of Balochistan
GOP	Government of Pakistan
GWh	Giga watt hours
HRSG	Heat Recovery Steam Generation
HSD	High Speed Diesel
HSE	Health Safety & Environment
H&S	Health and Safety
LRBT	Lyton Rehmatulla Benevolent Fund
m <sup>3</sup>	Cubic Meter
MSDS	Material Safety Data Sheet
MW	Mega Watt
NEQS	National Environment Quality Standards
NOC	No Objection Certificate
OGDCL	Oil and Gas Development Company Limited
O&M	Operation and Maintenance
pH	Hydrogen Ion Concentration
PPE	Personal Protective Equipment
PTW	Permit to Work
RA	Risk Assessment
RO	Reverse Osmosis
SOP	Standard Operating Procedure
SS	Sub Station (Electrical)
ST	Steam Turbine
TBT	Tool Box Talk
TCF	The Citizen Foundation
Uch-I	Uch Power Station
Uch-II	Uch-II Power (Private) Limited

**Appendix-A Uch-II Site Monitoring Summary Year-2020**

**Corrective Actions**

Monitoring Period		Year, 2020	
Monitoring Conducted by		Uch-II Staff	
Corrective Actions By		Uch-II Maintenance & Operation Departments	
S. No	Findings	Corrective Actions	Compliance Status (as of Dec 31, 2020)
01	In front of GT-1 Unit transformer, a steel bar is protruding out from the gravel. Its invisible in normal conditions unless you pay attention. It's a strike and hit hazard. Arrange to remove it completely.	The protruding steel bar has been removed followed by gravel makeup in the area.	Completed
02	Free standing SF6 cylinders needs to be relocated to industrial gases cylinder storage area.	SF6 cylinders shifted to specified industrial gas cylinder storage area.	Completed
03	Battery operated fork lifter of warehouse don't have beacon light on its top. The reversing buzzer sound is also low and may not be heard in areas of high noise.	Beacon light of the forklift has been replaced. TBT conducted for The authorized persons for fork lifter operation and they were advised to ensure the use of area barricading where possible.	Completed
04	The overhung tube Light installed in Demineralization building is hanging, which may be fall and could lead to personal injury.	All the overhung tube lights were inspected; the defected ones were replaced.	Completed
05	Metallic Mesh fixed around waste / storm water pit has very sharp & Irregular edges. It's a serious injury hazard. Please arrange to secure the edges so that it should not pose any injury to personnel working around.	The sharp edges of metallic mesh were secured by bending them inward and wrap with industrial tape where required.	Completed
06	A small pit of RO permeate system is covered with ply woods, covering pits with plywood is substandard practice, there must be some standardized proper metallic cover.	The area was barricaded immediately and metallic cover was provided to secure the pit opening.	Completed
07	Team working at CW pump was observed using pneumatic wrench without proper whip arrestor, the connecting clamp were left insecure.	The activity was stopped immediately and team was advised to secure the connector couplings with proper whip arrestors to eliminate the hazard of uncontrolled energy release.	Completed
08	Chemical drums placed near the ST lube oil skid were without secondary	The drum was removed and shifted to designated location.	Completed

	containments. Additionally, quick fit hard barrier to place around the drums to avoid personnel contact / collision with chemical		
09	Length of Access ladder of Scaffolding platform near clean drain tank pit was short since its runs only upto-landing platform. Whereas as per standard, it should be extended at least one meter above the landing platform.	The matter was discussed with the team working on location and they were made aware of the safe working at height protocols. The short in size ladder was replaced with a proper one.	Completed
10	Air inlet filters cleaning area, polythene bags and packets are spread, should be collected and placed at one place.	Housekeeping of the area is carried out.	Completed
11	Near HSD Tank: There is a leakage of water from Fire Fighting Hydrant valve due to this Jockey Pump Cut in many times and also Wastage of Water.	The leakage was repaired followed by housekeeping in the area.	Completed
12	220 KV switchyard entrance door Safety sign Shock Hazard not properly fixed and SAFETY SIGN Wear helmet is missing.	The safety sign was properly fixed and installed the missing safety sign.	Completed
13	Cable trench raised portion near instrument air compressor tank is broken, which may cause tripping and falling hazards.	Repair work was carried out to mitigate the tripping and falling hazards.	Completed
14	Ground wire cable near west side cooling tower basin stairs is exposed and containing tripping risk for the pedestrian in the area.	The exposed cable was properly secured to minimize the tripping risk.	Completed
15	A flexible hose was connected to the upright source coming out of the trench cover. The non-barricaded pipe could cause serious tripping and personal injury to the teams working in the area.	The flexible hose pipe was rerouted to ensure the safe movement of passersby.	Completed
16	Dry bushes require removal from areas such as Gas station, condensate removal skid, switchyard/relay room etc. In general an overall activity to be performed as weather is hot and dry.	Removal of weeds and bushes was carried out.	Completed
17	Due to windy conditions, the Muster Point sign installed in Uch-II colony has been dislodged and fallen on ground. Please arrange to fix the sign.	The safety sign was properly installed back on its location.	Completed
18	Fuel Gas Station (Uch-II) Windsock is torn installed in fuel gas station area.	The damaged windsock has been replaced.	Completed
19	Uch-II – MCW pumps Chain of Chain block is getting rusty because it is touching the wet floor.	The chain was lubricated, a metallic box has been fabricated and fixed on location to secure the chain it and	Completed

	There should be metallic box under the chain block to collect the chains when it is not in use, Rusty chain may cause serious hazard while lifting activity.	prevent from getting wet in the water spilled on floor (if any)	
20	Access platform placed at HRSG 1 for operating valves do not have guardrails for fall protection.	Access platform removed from the location, guard rail fixed by fabrication team and platform fixed at HRSG-1.	Completed
21	Uch-II. Switchyard Main Gate R/A Form with Holder is Fallen in Ground.	RA form holder was replaced and area risk assessment has been placed in it.	Completed
22	Glass door installed at Admin Building was without anti shatter membrane, which is posing a hazard of sever injury.	Door panel was protected with anti-shatter membrane.	Completed
23	The walkway from P-2 gate to P-3 is deteriorated at several locations. Need to fix as people goes to office by using this track.	The area was barricaded and repair work of the pedestrian walkway is carried out.	Completed
24	Housekeeping required inside the Chromatograph room & the area risk assessment of the location is missing.	Housekeeping of the area is carried out updated area RA has been placed on its location.	Completed
25	At HRSG-2, Confined spaces was left no un-barricaded and unattended, could lead to unauthorized access to the confined spaces.	The unattended opening was secured by mean of barricading and caution notice. All the SBMs were given TBT, the confined space attendant duties were discussed during the session.	Completed
26	At HRSG-1 Welding Rectifier found without electrical safety inspection tag at HRSG top platform.	Activity was stopped and the uninspected welding rectifier was shifted to workshop for inspection and tagging.	Completed
27	Lifting gears (slings) placed near the container around HRSG-2 and feed water pump areas were Stacked improperly.	The improperly stacked lifting gears were arranged properly and shifted to designated location.	Completed
28	Near HRSG-2 Fork lift truck observed parked with ignition key inside the ignition. This may lead to unauthorized use of fork lift truck.	The matter was discussed with mechanical team lead and advised to educate the authorized persons to strictly follow the key issuance/handover established protocols when job is over.	Completed
29	Fire extinguisher inspection tag of fire extinguisher fixed at the entrance of Chemical building was found torn and fallen on ground.	Re inspection of fire extinguisher was carried out by fire team and new inspection tag fixed.	Completed
30	Near HSD tank, the firefighting foam trolley 25kgs discharge hose was observed weathered and cracked.	The trolley was shifted to workshop and maintenance of the trolley was carried out.	Completed

Appendix-B

Period: Year-2020

**GTs Stack Emissions**

Q1-2020						
Stack Emissions	Units	Average GT-1	Average GT-2	Average Both GTs	NEQS Limits	WB / IFC Guidelines
Exhaust Temp.	°C	111.1	110.4	110.7	-	-
Particulate Matter	mg/Nm <sup>3</sup>	0.15	0.0	0.07	500	50
SO <sub>2</sub>	mg/Nm <sup>3</sup>	5.1	43.1	24.1	400	N/A
SO <sub>2</sub>	Metric ton/d			0.08	100	-
NO <sub>x</sub> *	mg/Nm <sup>3</sup>	133.3	121.1	127.2	400	152 (at 15% excess O <sub>2</sub> level)
NO <sub>x</sub>	lb/MMBTU			0.10	0.2	-
Q2-2020						
Stack Emissions	Units	Average GT-1	Average GT-2	Average Both GTs	NEQS Limits	WB / IFC Guidelines
Exhaust Temp.	°C	112.8	112.4	112.6	-	-
Particulate Matter	mg/Nm <sup>3</sup>	11.0	11.0	11.0	500	50
SO <sub>2</sub>	mg/Nm <sup>3</sup>	0.0	0.0	0.00	400	N/A
SO <sub>2</sub>	Metric ton/d			0.00	100	-
NO <sub>x</sub> *	mg/Nm <sup>3</sup>	26.3	17.6	21.9	400	152 (at 15% excess O <sub>2</sub> level)
NO <sub>x</sub>	lb/MMBTU			0.10	0.2	-
Q3-2020						
Stack Emissions	Units	Average GT-1	Average GT-2	Average Both GTs	NEQS Limits	WB / IFC Guidelines
Exhaust Temp.	°C	111.5	111.7	111.6	-	-
Particulate Matter	mg/Nm <sup>3</sup>	11.0	11.0	11.0	500	50
SO <sub>2</sub>	mg/Nm <sup>3</sup>	0.0	0.0	0.00	400	N/A
SO <sub>2</sub>	Metric ton/d			0.00	100	-
NO <sub>x</sub> *	mg/Nm <sup>3</sup>	27.3	21.0	24.1	400	152 (at 15% excess O <sub>2</sub> level)



## UCH-II POWER (PRIVATE) LIMITED



<b>NOX</b>	lb/MMBTU			0.10	0.2	-
<b>Q4-2020</b>						
<b>Stack Emissions</b>	<b>Units</b>	<b>Average GT-1</b>	<b>Average GT-2</b>	<b>Average Both GTs</b>	<b>NEQS Limits</b>	<b>WB / IFC Guidelines</b>
<b>Exhaust Temp.</b>	°C	111.9	111.5	111.7	-	-
<b>Particulate Matter</b>	mg/Nm3	7.0	8.0	7.5	500	50
<b>SO2</b>	mg/Nm3	0.0	0.0	0.00	400	N/A
<b>SO2</b>	Metric ton/d			0.00	100	-
<b>NOX *</b>	mg/Nm3	60.3	57.0	58.6	400	152 (at 15% excess O2 level)
<b>NOX</b>	lb/MMBTU			0.10	0.2	-

\* The actual concentrations of NOx are at 15 % excess O2 levels

### CO2 Produced

<b>Q1, 2020</b>			
	Monthly Average [Tons]	Total Quantity [Tons]	Total Quantity [Kg/KWh]
CO2 Produced (including CO2 in fuel gas)	148,823.34	446,470.03	0.79
CO2 Produced (excluding CO2 in fuel gas)	83,545.87	250,637.63	0.44
<b>Q2, 2020</b>			
	Monthly Average [Tons]	Total Quantity [Tons]	Total Quantity [Kg/KWh]
CO2 Produced (including CO2 in fuel gas)	138,053.8	414,161.39	0.80
CO2 Produced (excluding CO2 in fuel gas)	77,500.11	232,500.33	0.45
<b>Q3, 2020</b>			
	Monthly Average [Tons]	Total Quantity [Tons]	Total Quantity [Kg/KWh]
CO2 Produced (including CO2 in fuel gas)	165,617.8	496,853.54	0.79
CO2 Produced (excluding CO2 in fuel gas)	92,973.9	278,921.73	0.44
<b>Q4, 2020</b>			
	Monthly Average [Tons]	Total Quantity [Tons]	Total Quantity [Kg/KWh]
CO2 Produced (including CO2 in fuel gas)	107210.1	321630.49	0.79
CO2 Produced (excluding CO2 in fuel gas)	60185.23	180555.69	0.44

<b>YTD 2020 (i.e. up to Q4 2020)</b>		
	YTD – Total Tons of CO2 Produced	YTD – Average KgCO2/KWh
CO2 Produced (including CO2 in fuel gas)	1,679,115.45	0.79
CO2 Produced (excluding CO2 in fuel gas)	942,615.38	0.44

Total Power Generation for Year 2020 is 2104.522 GWh

## CO<sub>2</sub> Calculation Methodology

- 1.0 Monthly average Natural Gas quality data is obtained from Gas chromatograph indicating Natural gas constituents in %age.
  - 2.0 Mole fraction of constituents is calculated and CO<sub>2</sub> weight is obtained.
  - 3.0 The monthly gas consumption data is obtained from flow computers available at gas station in MMBTU.
- Typical monthly computation data is as follows;

Data from Gas Chromatograph		
Gas Constituents		Moles %
Carbon Dioxide	CO <sub>2</sub>	36.00976667
Nitrogen	N <sub>2</sub>	20.44097333
Methane	CH <sub>4</sub>	41.68367
Ethane	C <sub>2</sub> H <sub>6</sub>	1.11432
Propane	C <sub>3</sub> H <sub>8</sub>	0.41803
I-Butane	C <sub>4</sub> H <sub>10</sub>	0.11367
N-Butane	C <sub>4</sub> H <sub>10</sub>	0.121
I-Pentane	C <sub>5</sub> H <sub>12</sub>	0.03967
N-Pentane	C <sub>5</sub> H <sub>12</sub>	0.0300
Hexane	C <sub>6</sub> H <sub>14</sub>	0.0200
Molar Total	----	100.0

Manual Calculations					
Molecular weight	Fraction of Gas Mole	Wt	Moles of CO <sub>2</sub> Generated	Wt of CO <sub>2</sub>	
44.0098	0.360098	15.847826	44	15.84430	
28.01348	0.204410	5.726228	0	0.00000	
16.04276	0.416837	6.687211	44	18.34081	
30.06964	0.011143	0.335072	88	0.98060	
44.09652	0.004180	0.184338	132	0.55180	
58.1234	0.001137	0.066069	176	0.20006	
58.1234	0.001210	0.070329	176	0.21296	
72.15028	0.000397	0.028620	220	0.08727	
72.15028	0.000300	0.021645	220	0.06600	
86.17716	0.000200	0.017235	264	0.05280	
	0.9999	28.984573		36.3366	Incl CO <sub>2</sub> in gas
				20.4923	Excl CO <sub>2</sub> in gas

## Heating values

Constituents	HHV (dry) MJ/kg	LHV (dry) MJ/kg
Carbon Dioxide	0	0
Nitrogen	0	0
Methane	55.4850	49.9995
Ethane	51.8645	47.4742
Propane	50.3414	46.3418
Isobutane	49.5135	45.7279
N-Butane	49.5135	45.7279
Isopentane	48.9996	45.3419
N-Pentane	48.9996	45.3419
Hexanes	48.6694	45.0907

HHV (dry)	LHV (dry)
0	0
0	0
371.0400	334.3574
17.3783	15.9073
9.2798	8.5426
3.2713	3.0212
3.4823	3.2160
1.4024	1.2977
1.0606	0.9814
0.8388	0.7772

407.7535 368.1007 MJ/mole of gas  
MJ/kg MJ/kg

14.06795 12.69988

For calculating CO<sub>2</sub> emissions the following formula is:

$$\text{CO}_2 \text{ Tons} = \frac{\text{Gas Consumed MJ} / \text{LCV (MJ/Kg)} \times \text{Total wt of CO}_2}{(\text{Molecular wt of Gas Kg} \times 1000)}$$

Whereas 01 MJ = 1055.056 x MMBTU

If we have consumed Natural Gas = 1,830,729.00 MMBTU than Natural Gas than Total CO<sub>2</sub> Generated including CO<sub>2</sub> in Gas will be 190,667.7481 Tons and 107,528.5354 Tons excluding CO<sub>2</sub> in gas.

## Energy Usage

### Energy Usage Q1-2020

Parameters	Units	Jan-20	Feb-20	Mar-20
Fuel Gas Consumed	m3	111,154,099.35	75,906,138.46	70,371,894.00
Hours of Operation	Hours	729.24	493.93	480.93

### Energy Usage Q2-2020

Parameters	Units	Apr-20	May-20	Jun-20
Fuel Gas Consumed	m3	59,577,512.15	79,055,254.95	101,365,248.72
Hours of Operation	Hours	407.79	570.26	694.51

### Energy Usage Q3-2020

Parameters	Units	July-20	Aug-20	Sep-20
Fuel Gas Consumed	m3	109,812,730.34	96,480,309.55	79,955,447.50
Hours of Operation	Hours	726.37	641.67	530.48

### Energy Usage Q4-2020

Parameters	Units	Oct-20	Nov-20	Dec-20
Fuel Gas Consumed	m3	87,121,308.65	10,431,643.05	87,654,798.03
Hours of Operation	Hours	569.15	67.99	567.10

## Ambient Air Quality Data

### Q1, 2020

No Ambient Air monitoring has been performed in Q-1 2020 due to onset of COVID-19 infection.

### Q2, 2020

No Ambient Air monitoring has been performed in Q-2 2020 due to onset of COVID-19 infection.

## Q3, 2020

Parameters	Units	Monitoring Location: Close to Main Gate of Uch Power Station	NEQS Limits
		24 Hour Average Concentration	
CO	mg/m <sup>3</sup>	3.2	5 mg/m <sup>3</sup> (limit for 8 hours)
NO	μg/m <sup>3</sup>	6.9	40 μg/m <sup>3</sup> (limit for 24 hours)
NO <sub>2</sub>	μg/m <sup>3</sup>	0.0	80 μg/m <sup>3</sup> (limit for 24 hours)
SO <sub>2</sub>	μg/m <sup>3</sup>	4.0	120 μg/m <sup>3</sup> (limit for 24 hours)
PM <sub>10</sub>	μg/m <sup>3</sup>	120.9	150 μg/m <sup>3</sup> (limit for 24 hours)

## Q4, 2020

Parameters	Units	Monitoring Location: Close to Main Gate of Uch Power Station	NEQS Limits
		24 Hour Average Concentration	
CO	mg/m <sup>3</sup>	1.7	5 mg/m <sup>3</sup> (limit for 8 hours)
NO	μg/m <sup>3</sup>	7.0	40 μg/m <sup>3</sup> (limit for 24 hours)
NO <sub>2</sub>	μg/m <sup>3</sup>	0.0	80 μg/m <sup>3</sup> (limit for 24 hours)
SO <sub>2</sub>	μg/m <sup>3</sup>	4.4	120 μg/m <sup>3</sup> (limit for 24 hours)
PM <sub>10</sub>	μg/m <sup>3</sup>	137.1	150 μg/m <sup>3</sup> (limit for 24 hours)

### Vehicle Exhaust Emissions

Frequency of vehicle exhaust emissions testing is defined as “Annually” in the EMP and was carried out in December 2020.

Parameter	Units	NEQS Limit	Vehicle #						
			PVA-16	PVA-013	PVA-014	PVA-015	PVA-011	Crane	Ambulance (2010)
CO	%	06	0.03	0.02	0.03	0.03	0.03	0.07	0.05
Smoke	Ringleman Scale	02	01	01	01	01	01	01	01
Noise	dB (A)	85	63.2	62.8	62.4	63.3	62.3	71.5	63.7

### Heavy Metals Emissions

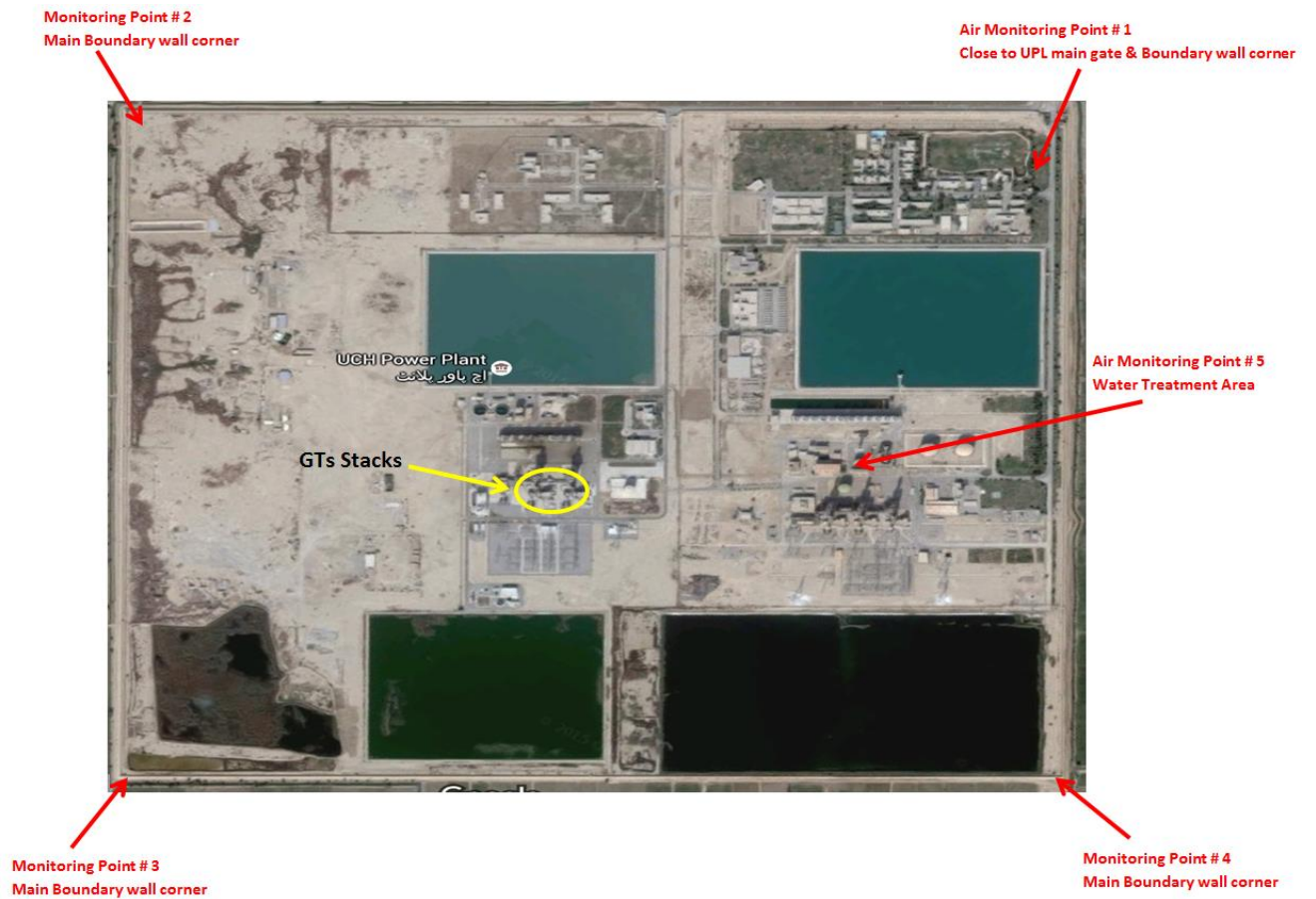
#### **Semi Annual Heavy Metals Emissions**

Frequency of heavy metal emission testing is defined as Semi-annually in EMP. However, due to onset of COVID-19 pandemic, heavy metal testing was performed only once in December 2020. Results for year 2020 are as followed.

Q4, 2020				GT-1	GT-2
S. No	Parameters	Method	Unit	Results	Results
1	Mercury (Hg)	USEPA - 29	mg / Nm <sup>3</sup>	<0.001	<0.001
2	Cadmium (Cd)	USEPA - 29	mg / Nm <sup>3</sup>	<0.004	<0.004
3	Arsenic (As)	USEPA - 29	mg / Nm <sup>3</sup>	<0.053	<0.053
4	Antimony (Sb)	USEPA - 29	mg / Nm <sup>3</sup>	<0.032	<0.032
5	Zinc (Zn)	USEPA - 29	mg / Nm <sup>3</sup>	<0.002	<0.001
6	Lead (Pb)	USEPA - 29	mg / Nm <sup>3</sup>	<0.042	<0.042

Appendix B-I

Location Map – Ambient Air Quality Monitoring Points





## Appendix C

### Raw Water Treatment Plant:

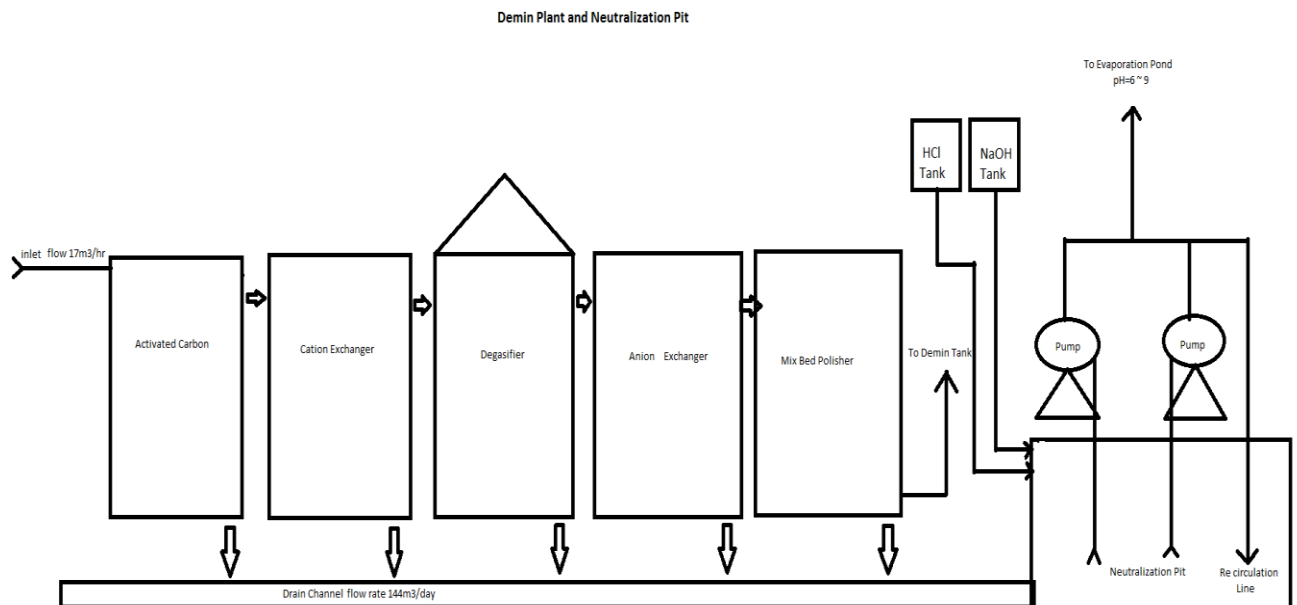
Raw water is supplied to Uch-II site from the Pat Feeder canal located approximately 3km away from site through a pipeline. Raw water is stored in a raw water storage pond. Raw water is pumped from the storage pond via pumps to clarifiers. Clarified water is forwarded via a surge tank for cooling water make-up, to the service water tank and to the potable water plant.

The water treatment demineralization building has two trains. Each train is comprised of carbon filter, cation bed, de-gasifier, anion and mixed bed. Regeneration of the resin beds use HCL and NaOH which is stored in bund tanks.

#### Treatment of Demin Plant Regenerated Wastewater:

Chemical waste from raw water pretreatment area and wastewater produced in demineralization building by backwashing of activated carbon filters, regeneration of Cation and Anion exchangers is collected in neutralization pit (10GCK01 BB010).

As acidic and alkaline effluent is collected in neutralization pit, pH of accumulated effluent is neutralized itself. However for variation in pH acid and caustic dosing system with pH controller is provided. A recirculation line is provided with effluent transfer pumps for uniform mixing of the chemicals. Once pH is neutralized in the pit, the effluent is discharged to evaporation pond through Effluent Transfer Pumps (10GCK01 AP019/020). Pumps start/stop is manual and would trip at low level in neutralization pit. Manual change over in case of fault of pumps is provided



## **Sanitary Wastewater:**

Sanitary wastewater generated from plant, residential colony and offices first pass through the screen channel containing bar and mechanical screens for removal of any floating materials. Trash free wastewater is collected in the Sanitary Wastewater Tank (10GRK01 BB001). This tank serves the purpose of liquid holdup and pumping to the aeration tank (10GRC01 BB002). Two submersible pumps (10GRK01 AP001/002) are installed in the tank. Pumps start /stop at liquid level (HLL/LLL) and a level switch (LS 10GRK01CL101) is provided for automatic operation of submersible pumps. Manual change over in case of fault of pumps is provided.

### Aeration Tank:

This unit supports the bacterial growth. Air is continuously supplied in this unit for biological reaction. Moreover this method of aeration offers the potential for high efficiency because bubbles of air rising through the water are continually exposed to fresh liquid surfaces maximizing water surface per unit of air.

The organic matter in the effluent is oxidized by the bacteria and is converted into harmless CO<sub>2</sub> gas. Two air blowers (10GRC01 AN001/002) are provided for aeration in the aeration tank (10GRC01 BB002). A portion of the settled biomass from secondary clarifier (10GRD01AT002) is recycled back to maintain the desired concentration of cells in the aeration tank. The sludge recycling is achieved by continuously blowing air inside the liquid media in secondary clarifier.

### Secondary Clarifier:

This is also called sedimentation tank. The purpose of secondary clarifier (10GRD01 AT002) is to remove the microorganism by sedimentation process. Hopper shaped secondary clarifier is provided for collection of sludge in the center for onward pumping for recycling and disposal as well.

The settled sludge in the secondary clarifier is continuously recycled in the aeration tank (10GRC01 BB002). Supernatant also referred as treated effluent is drawn from an effluent weir to the chlorination tank (10GRK01 BB004).

### Chlorination Tank:

Chlorination Tank (10GRK01 BB004) is provided for disinfection of the treated effluent. Partition walls with opening at the end are provided for proper mixing of chlorine in the effluent for disinfection. Sodium Hypochlorite is used for disinfection.

Two pumps (10GRN01 AP003/004) are provided for chemical dosing. Sodium Hypochlorite dosing pumps are interlocked with sanitary wastewater pumps (10GRK01 AP001/002), however dry run protection is provided by level switch (LS 10GRN01CL101). Operation of pumps is continuous. Manual change over in case of fault of dosing pump is provided. The final treated water from this tank is then transferred to the evaporation pond.

## **Waste Water Treatment & RO.**

Cooling tower blow down waste stream is sent to an onsite industrial wastewater tank where it is mixed with other wastewater streams from evaporative cooler and sludge drying bed water. Wastewater from industrial wastewater tank is transferred to a clarifier where clarified water and sludge is separated and transferred to clarifier tank and sludge drying bed respectively.

Clarified water first filtered through the multimedia filters and then passes through Reverse Osmosis (RO) membranes. Filtered water from RO is transferred to the CW system for reuse, whereas concentrate from RO is discharged to the evaporation pond for final disposal. pH of RO reject is 7~8 and no further treatment is required.

However other streams such as bypass line from filter feed pumps (10GNK02 AP007/008), effluent of pump sump (10GNK01 BB003) and overflow of clarified water tank (10GNK02 BB007) also be drained to evaporation pond occasionally.

Parameters for one train of RO are as below:

Feed water Quantity = 80m<sup>3</sup>/ hr.

Feed water pH = 8.0

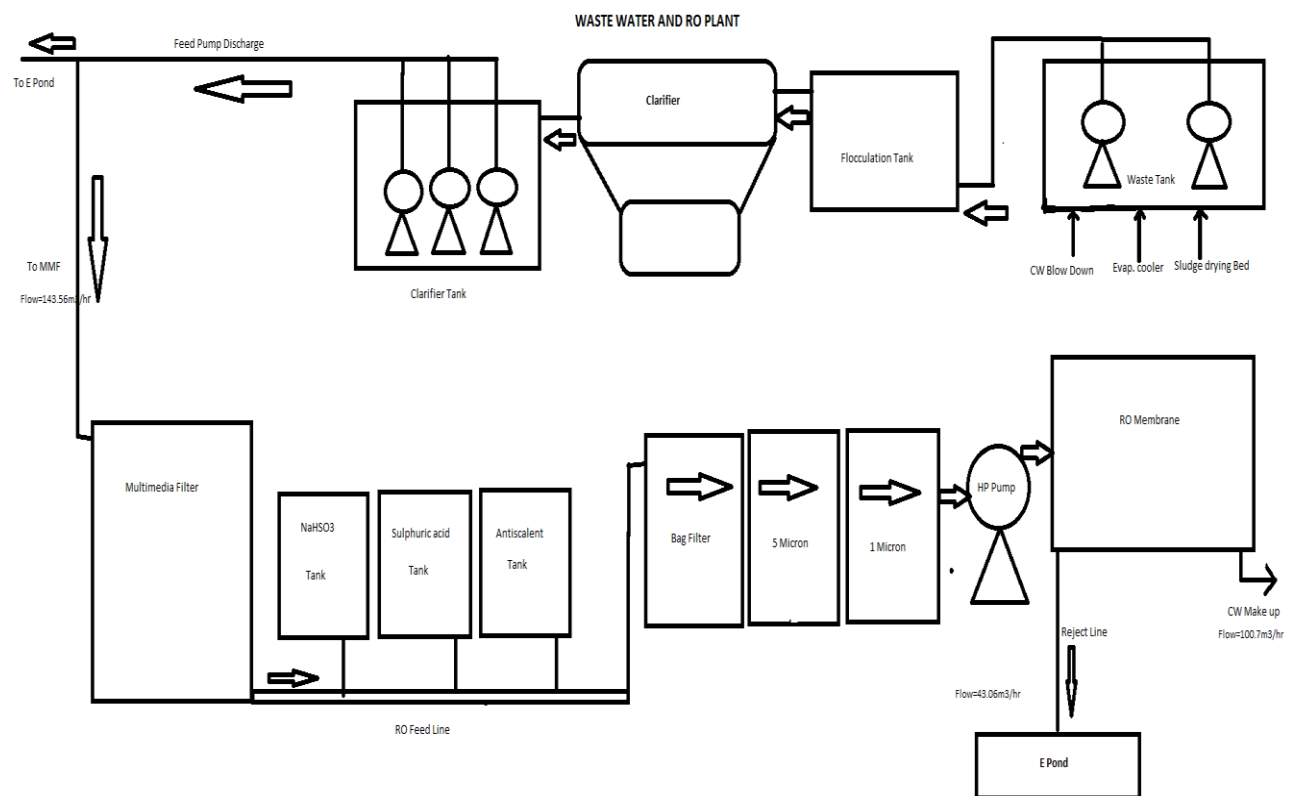
Feed water conductivity = 2694 us/cm

Product water (Permeate) quantity= 53.9 m<sup>3</sup>/hr.

Product water (Permeate) conductivity = <280 us/cm.

Recovery = 70%

## Waste Water & RO Plant - Single Line Diagram



## Appendix-C I

FY-2020

### Cooling water

Location: Cooling tower discharge point

Parameters	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	NEQS Limits
Temp	°C	27.9	29.2	28.8	31.7	32.2	35.5	37	38.3	36.2	31	27.6	27	40
pH	pH	7.62	7.63	7.62	7.61	7.64	7.63	7.62	7.62	7.63	7.62	7.71	7.64	6 to 10
TDS	mg/lit	1681	1730	1575	1339	1719	1750	1673	1590	1685	1306	1396	1697	3500

### Sewage Treatment Plant

Location: Sewage treatment discharge point

Parameters	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	NEQS Limits
pH	pH	7.33	7.59	7.2	7.4	7.4	7.6	7.5	7.5	8.2	8.1	8.16	7.47	6 to 10
TSS	mg/liter	6	28	15	32	7	4	6	20	26	17	14	7	150
TDS	mg/liter	418	548	441	426	509	354	309	335	410	414	459	304	3500
BOD	mg/liter	3.2	8.5	6.6	5.8	3.6	6.6	3.4	17	22	1.6	11	2.8	80
COD	mg/liter	19	11	20	13	38	23	45	25	16	23	42	37	150

### Process Water Treatment Plant

Closed Cooling Water (CCW)

Parameters	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	NEQS Limits
pH	pH	9.14	9.30	9.18	9.08	9.07	9.32	9.41	9.18	9.3	9.3	9.3	9.1	6 to 10
TSS	mg/liter	1	1	1	1	1	1	1	1	1	1	1	1	150
TDS	mg/liter	1214	1610	1075	1240	758	1405	1090	1068	951	1289	1166	1001	3500
Cl-	mg/liter	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1000
Metals (Fe)	ppb	29	49	56	60	38	25	33	36	32	31	15	18	

# UCH-II POWER (PRIVATE) LIMITED



## Heat Recovery Steam Generator # 1 (HRSG-1)

Parameters	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	NEQS Limits
pH	pH	9.44~9.80	9.42~9.79	9.31~9.81	9.24 ~ 9.96	9.5 ~ 9.81	9.57~10.0	9.5 ~ 9.87	9.45~9.89	9.43~9.85	9.29~9.82	9.59~9.72	9.49~9.86	6 to 10
TSS	mg/liter	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	150
Cl-	mg/liter	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1000
Metals (Fe)	ppb	15	14	14	17	8	7	7	10	8	7	6	12	

## Heat Recovery Steam Generator # 2 (HRSG-II)

Parameters	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	NEQS Limits
pH	pH	9.45~9.80	9.40~9.80	9.32~9.83	9.32 ~ 9.85	9.42~9.78	9.6~9.97	9.54 ~ 9.89	9.46~9.88	9.61~9.92	9.29~9.86	9.62~9.8	9.52~9.88	6 to 10
TSS	mg/liter	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	150
Cl-	mg/liter	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1000
Metals (Fe)	ppb	15	16	16	17	6	7	6.5	9	9	8	9	14	

## Discharge Point RO Reject

Parameters	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	NEQS Limits
pH	pH	7.16	7.19	7.2	7.34	7.18	7.40	7.28	7.10	7.14	7.15	RO PLANT OUT OF SERVICE	7.10	6 to 10
TSS	mg/liter	0	0	0	0	0	0	0	0	0	0		0.00	150
TDS	mg/liter	4088	4655	4732	4865	4718	4130	4249	4564	4326	4844		4515	3500
Cl-	mg/liter	1022	1040	1050	1260	1170	1085	1110	1200	1061	1200		1228	1000
Metals (Fe)	ppb	0.9	0.15	0.124	0.17	0.11	0.17	0.21	0.24	0.11	0.13		0.81	

### Evaporation Pond

Location: Effluent flowing to evaporation pond

Parameters	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	NEQS Limits
BOD	mg/liter	0.6	0.8	1.6	0.9	0.9	1	0.9	0.6	1.3	0.4	0.9	0.7	80
COD	mg/liter	21.0	15.0	13.0	10.0	28.0	23.0	25.0	10	5	5	20	6	150
Cl-	mg/liter	798	720	770	710	440	1243	326	977	1231	958	240	756	1000
metals (Fe, Zn)	mg/liter	0.55+0.11	1.2+0.06	0.8+0.8	0.87+0.09	1.1+0.2	0.69+0.08	1.29+0.19	0.63+0.1	0.27+0.2	0.87+0.08	0.125+0.09	0.324+0.12	Fe 8.0 & Zn 5.0
Temp	°C	18.7	23.4	22.6	24.5	33.0	31.2	34.3	34.6	32.4	32.6	21.8	20.7	40
pH	pH	7.13	6.88	7.11	7.21	6.9	7.53	7.65	7.75	7.6	7.10	8.10	7.60	6 to 10
TSS	mg/liter	11	40	10	22	10	29	38	11	20	28	22	17	150
TDS	mg/liter	2128	2065	1988	2076	1750	2688	1400	2527	3430	2282	772	1435	3500
Oil & grease	mg/liter	0.36	0.6	0.5	0.2	1.1	1.36	1.0	1.1	0.6	0.9	0.47	0.60	10

### Surface Drains

Location: Within 100m of turbines, WTP, Workshops /stores, oil water separator discharge

Parameters	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Appearance & condition of oil & grease	No water in drains	No water in drains	No water in drains	No water in drains	No water in drains	No water in drains	No water in drains	No water in drains	No water in drains	No water in drains	No water in drains	No water in drains

### Water Usage

Location: Pat Feeder Canal intake point

Water usage (m3)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Raw Water Canal Intake Point	157,993	194,897	179,438	176,229	283,242	319,311	297,159	212,061	75,660	365,534	45,610	189,054
Water reuse through RO	31,977	30,458	17,968	24,448	29,267	32,430	25,369	31,072	23,379	17,251	Complex Outage	18,579
Water usage in colony	10,646	9,971	9,250	10,070	10,710	10,254	10,588	10,654	10,321	9,925	10,305	9,820
Water disposal into Evaporation Pond	30,187	28182	21049	24946	29876	30153	26161	29265	25782	21793	10668	22683



## Appendix-D

**FY - 2020**

Waste Type	Units	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Used oil	Ltr	9.0	67.0	457.5	7.5	8.0	15.0	23.5	24.0	257.5	30.5	50.5	48.5
Metal	Kg	3.3	0.3	11.5	-	-	-	-	-	-	-	1.5	3.5
Paper/ Plastic/ Glass	Kg	217.3	214.3	187.3	182.5	63.3	220.8	223.0	347.8	255.8	298.3	217.8	214.8
Wood & Food Waste	Kg	448.1	299.1	283.5	254.1	269.0	304.1	324.0	334.0	348.0	393.0	305.0	338.0
Oil Filters & Oily Rags	Kg	1.0	110.5	215.0	50.3	65.0	65.3	40.0	50.0	50.5	50.3	53.0	73.3
Used Batteries, wet/dry cells	Nos	4.1	1.1	61.1	0.3	0.4	-	30.7	1,520.6	2.0	4.4	221.0	37.4
Old Tyres	Nos	2.90	1.00	3.00	2.50	3.50	0.25	4.00	1.00	2.50	21.25	3.00	2.50

## Appendix-E

Occupational Noise Monitoring			Average Noise Monitoring Results (dB) A			
S. No	Location of Equipment	Guarantee limits	Q1, 2020	Q2, 2020	Q3, 2020	Q4, 2020
1	East side of pump "A" at Raw Water Pumping Station	85 (dB) A	81.7	–	–	–
2	East side of pump "B" at Raw Water Pumping Station	85 (dB) A	76.9	–	–	–
3	South Side of potable water supply pump "A"	85 (dB) A	71.7	74.9	81.9	72.3
4	South Side of CT Basin Makeup Pump "A"	85 (dB) A	77.8	77.5	78.8	76.9
5	East Side of CT Basin Makeup Pump "B"	85 (dB) A	84.5	85.4	–	83.3
6	West side of DM distillation pump "B"	85 (dB) A	73.0	69.7	70.3	69.7
7	South side of Hot Well make up pump "B"	85 (dB) A	–	82.7	79.0	81.8
8	East side of Service Water pump "A"	85 (dB) A	–	84.5	–	81.0
9	North Side of CT at ground level close to cell #02	85 (dB) A	84.7	81.4	79.2	80.3
10	North Side of CT at ground level close to cell #04	85 (dB) A	83.9	80.7	80.1	80.5
11	North Side of CT at ground level close to cell #06	85 (dB) A	83.2	81.4	79.9	79.5
12	South Side of CT at ground level close to cell #08	85 (dB) A	81.9	78.5	78.8	79.8
13	East Side of Cooling Tower fan motor # 6 (10PAB01-AN006)	85 (dB) A	80.1	81.4	75.0	80.7
14	East Side of Cooling Tower fan motor # 8 (10PAB01-AN008)	85 (dB) A	87.4	81.1	76.1	82.1
15	East Side of Fire water pump house with door close & Diesel pump running	85 (dB) A	74.4	76.0	–	75.9
16	North Side of Fire water pump house with door close & Diesel pump OFF	85 (dB) A	74.9	74.4	–	73.9
17	West side of HSD Decanting point # 3	85 (dB) A	71.2	66.5	63.0	64.3
18	North Side of HRSG-2 main stack	85 (dB) A	71.9	73.3	75.0	72.0
19	North side of GT -2 Generator	85 (dB) A	74.3	76.6	77.5	75.4
20	South side of GT -2 turbine combustion chamber	85 (dB) A	90.1	80.6	88.4	85.7
21	North side of GT -2 PEECC	85 (dB) A	74.0	81.1	74.0	80.4
22	South side of boiler feed pump "B" (HRSG-2)	85 (dB) A	87.3	85.4	–	84.9
23	South side of boiler feed pump "A" (HRSG-2)	85 (dB) A	–	–	86.3	–
24	South side of GT -1 PEECC	85 (dB) A	77.5	75.5	74.0	75.6
25	South side of GT -1 turbine combustion chamber	85 (dB) A	88.5	89.7	87.0	88.9
26	West side of GT -1 Generator	85 (dB) A	80.5	76.0	78.9	76.0
27	South side of GT -1 turbine compartment (shaft) entrance door	85 (dB) A	87.8	87.9	89.0	90.0
28	North Side of HRSG-1 main stack	85 (dB) A	74.4	76.6	74.0	74.2
29	West side of HRSG-1 at bottom close to HRSG duct entrance	85 (dB) A	81.9	89.5	78.0	80.2
30	West Side of Cooling water pumping station	85 (dB) A	78.1	75.5	78.1	80.6
31	West Side of CW pump "B" in cooling water pumping station	85 (dB) A	86.2	79.4	91.8	84.6
32	North Side of CW pump "B" in cooling water pumping station	85 (dB) A	86.5	80.5	79.3	88.2
33	West Side of CW pump "C" in cooling water pumping station	85 (dB) A	88.2	80.4	–	86.7
34	North Side of CW pump "C" in cooling water pumping station	85 (dB) A	87.3	81.6	–	85.7
35	West Side of Auxiliary CW pump # 1 in cooling water pumping	85 (dB) A	88.7	80.5	88.0	–
36	East Side of Auxiliary CW pump # 1 in cooling water pumping	85 (dB) A	89.5	85.4	90.2	–

## UCH-II POWER (PRIVATE) LIMITED



37	West Side of Auxiliary CW pump # 2 in cooling water pumping	85 (dB) A	–	–	–	86.6
38	East Side of Auxiliary CW pump # 2 in cooling water pumping	85 (dB) A	–	86.7	–	87.2
39	North Side of CCW pump "B"	85 (dB) A	82.5	–	81.5	–
40	North Side of CCW pump "A"	85 (dB) A	–	83.0	–	83.9
41	North Side of instrument Air Compressor "A"	85 (dB) A	82.5	–	–	–
42	East Side of instrument Air Compressor "B"	85 (dB) A	83.3	80.2	80.4	80.8
43	North Side of instrument Air Compressor "B"	85 (dB) A	83.1	82.4	81.7	82.4
44	North Side of Boiler Feed Pump # 1 at HRSG-1 Bottom	85 (dB) A	–	–	–	–
45	North Side of Boiler Feed Pump # 2/B at HRSG-1 Bottom	85 (dB) A	87.0	85.2	85.0	85.4
46	East side of Steam Turbine	85 (dB) A	85.2	82.0	83.5	82.8
47	West side of Oil cooler in lube oil console skid for STG	85 (dB) A	82.1	78.4	83.5	79.2
48	West side of Steam Turbine	85 (dB) A	83.1	79.7	81.9	80.8
49	Waste Water Treatment plant near pump station	85 (dB) A	77.9	–	82.0	–
50	North Side of workshop	85 (dB) A	71.9	–	65.9	61.0
51	West side of HRSG-2, duct entrance	85 (dB) A	77.9	81.5	79.0	80.5
52	South Side of EDG	85 (dB) A	74.0	76.1	63.0	–
53	West Side of EDG	85 (dB) A	76.9	74.9	60.0	–
54	South side of sand filter pump B	85 (dB) A	–	–	88.3	–
55	South side of sand filter pump A	85 (dB) A	–	–	–	71.6

Ambient Noise Monitoring			Average Noise Monitoring Results (dB) A			
S. No	Noise Monitoring Locations	Guarantee limits	Q1, 2020	Q2, 2020	Q3, 2020	Q4, 2020
1	Main gate Uch-II	70 (dB) A	57.0	47.1	58.2	53.9
2	Check Post # 3 (at boundary wall)	70 (dB) A	58.7	48.9	57.5	52.6
3	Check Post # 5 (at boundary wall)	70 (dB) A	59.6	48.7	58.1	53.4
4	Check Post # 7 (at boundary wall)	70 (dB) A	61.0	51.9	52.9	51.7

# UCH-II POWER (PRIVATE) LIMITED



## Noise Hazard Awareness Training Record

S. No	Username	Department	Completed Date	Course	Result	Score
1	abdul.ghani	Operations-2	30/05/2020	Noise Video	Pass	100%
2	muhammad.arif	Operations-3	29/07/2020	Noise Awareness Interactive	Pass	86%
3	ali.zeb	Operations-2	27/06/2021	Noise Video	Pass	100%
4	zahid.ali	Operations-2	26/07/2020	Noise Video	Pass	100%
5	shahid.naeem	Operations-2	25/09/2019	Noise Video	Pass	100%
6	mohammad.babur	Operations-2	24/06/2021	Noise Awareness Interactive	Pass	93%
7	javed.iqbal	Operations-3	23:48 26/05/2021	Noise Awareness Interactive	Pass	100%
8	samran.naveed	Operations-3	23:15 18/08/2020	Noise Awareness Interactive	Pass	93%
9	yousuf.bughio	Operations-2	23:00 19/04/2019	Noise Awareness Interactive	Pass	86%
10	abdul.ghaffar	Operations-1	23/07/2021	Noise Video	Pass	86%
11	faisal.afzal	Operations-2	22:38 25/08/2020	Noise Video	Pass	93%
12	bashir.ahmed	Operations-3	22:34 16/05/2020	Noise Awareness Interactive	Pass	80%
13	bashir.ahmed	Operations-3	22:17 21/05/2019	Noise Awareness Interactive	Pass	86%
14	javed.iqbal	Operations-3	22/03/2019	Noise Video	Pass	93%
15	waleed.yaqoob	Operations-2	22 28/07/2021	Noise Video	Pass	86%
16	mohammad.hanif	Operations-2	21:39 30/05/2020	Noise Video	Pass	86%
17	muhammad.fayyaz	Operations-2	21:35 29/07/2020	Noise Video	Pass	93%
18	muhammad.mujaahid	Operations-2	21/07/2021	Noise Video	Pass	100%
19	alam.zeb	Operations-3	20:11 17/11/2019	Noise Video	Pass	86%
20	muhammad.asad	TSD-2	19:01 31/05/2021	Noise Video	Pass	100%
21	naeem.baig	TSD-2	18:47 27/10/2018	Noise Video	Pass	93%
22	shafqat.naqvi	Operations-2	17:56 30/07/2019	Noise Awareness Interactive	Pass	100%
23	ghulam.mustafa	Operations-2	17:44 13/10/2020	Noise Awareness Interactive	Pass	100%
24	murtaza.khoso	TSD-2	17:21 18/09/2018	Noise Video	Pass	93%
25	asad.tariq	TSD-2	17:00 16/12/2018	Noise Video	Pass	100%
26	muhammad.asad	TSD-2	16:55 26/10/2018	Noise Video	Pass	100%
27	muhammad.ejaz	Maintenance-2	16:52 13/07/2019	Noise Awareness Interactive	Pass	86%
28	jumma.khan	TSD-1	16:39 20/06/2021	Noise Video	Pass	93%
29	muhammad.hassan	Operations-2	16:34 28/07/2019	Noise Video	Pass	100%
30	hse.trainee	HSE	16:30 15/03/2019	Noise Video	Pass	86%
31	azam.khan	Operations-3	16:15 25/11/2019	Noise Video	Pass	80%
32	farhan.ullah	Operations-2	15:53 21/09/2020	Noise Awareness Interactive	Pass	100%
33	umair.mustafa	TSD-1	15:50 20/06/2021	Noise Video	Pass	100%
34	javed.iqbal	Operations-3	15:42 18/06/2020	Noise Awareness Interactive	Pass	93%
35	muhammad.akmal	Operations-2	15:36 29/04/2020	Noise Video	Pass	80%
36	muhammad.asad	TSD-2	15:25 26/03/2020	Noise Video	Pass	100%
37	mohammad.ramzan	Operations-2	15:19 15/03/2019	Noise Awareness Interactive	Pass	93%
38	raja.khan	Maintenance-1	15:15 25/05/2021	Noise Awareness Interactive	Pass	80%
39	mohammad.babur	Operations-2	15/12/2019	Noise Awareness Interactive	Pass	93%
40	muhammad.ejaz	Maintenance-2	14:18 15/07/2019	Noise Video	Pass	93%
41	muhammad.mujaahid	Operations-2	14:17 19/08/2019	Noise Video	Pass	80%
42	qamar.malik	Operations-3	14/09/2020	Noise Video	Pass	100%
43	rahamdad.khan	Operations-2	14/05/2020	Noise Video	Pass	86%
44	masroor.ahmed	Operations-1	13:38 29/08/2020	Noise Video	Pass	100%
45	aijaz.ali	Operations-2	13:33 30/08/2020	Noise Awareness Interactive	Pass	100%
46	rahamdad.khan	Operations-2	13:23 28/05/2019	Noise Video	Pass	86%
47	muhammad.mujaahid	Operations-2	13:11 15/08/2020	Noise Awareness Interactive	Pass	93%
48	hanif.manjhu	Operations-2	12:58 19/03/2019	Noise Awareness Interactive	Pass	86%
49	mian.sharif	Operations-3	12:31 27/08/2020	Noise Video	Pass	93%
50	muhammad.ashraf	Operations-2	12:24 24/07/2019	Noise Video	Pass	93%
51	masroor.ahmed	Operations-1	12:21 22/07/2019	Noise Video	Pass	93%
52	zulfiqar.mughal	Operations-2	12:20 27/07/2019	Noise Video	Pass	80%
53	mohammad.hanif	Operations-2	11:56 30/05/2021	Noise Awareness Interactive	Pass	100%
54	mohammad.ramzan	Operations-2	11:54 30/04/2020	Noise Video	Pass	86%
55	abdul.ghani	Operations-2	11:49 27/02/2019	Noise Awareness Interactive	Pass	93%
56	junaib.butt	TSD-2	11:40 24/11/2019	Noise Video	Pass	100%
57	naeem.baig	TSD-2	11:35 23/10/2020	Noise Video	Pass	100%
58	asad.tariq	TSD-2	11:10 17/06/2021	Noise Video	Pass	100%
59	suhail.ahmed	Operations-2	11:06 23/05/2020	Noise Awareness Interactive	Pass	100%
60	ali.zeb	Operations-2	11:00 20/07/2020	Noise Awareness Interactive	Pass	93%
61	khalid.hussain	Operations-2	10:53 30/07/2020	Noise Video	Pass	80%
62	khalid.hussain	Operations-2	10:53 21/07/2019	Noise Video	Pass	93%
63	asad.tariq	TSD-2	10:44 26/06/2021	Noise Awareness Interactive	Pass	100%
64	ghulam.abbas	Operations-2	10:38 15/11/2020	Noise Awareness Interactive	Pass	93%
65	shahid.naeem	Operations-2	10:32 19/08/2020	Noise Awareness Interactive	Pass	100%

# UCH-II POWER (PRIVATE) LIMITED



66	imran.saleem	TSD-2	10:26 24/11/2018	Noise Video	Pass	100%
67	faisal.afzal	Operations-2	09:48 17/09/2019	Noise Video	Pass	86%
68	suhail.ahmed	Operations-2	09:24 20/04/2021	Noise Video	Pass	93%
69	muhammad.asim	Maintenance-2	09:10 13/07/2021	Noise Awareness Interactive	Pass	100%
70	asghar.chadher	Operations-3	09:08 15/11/2019	Noise Video	Pass	80%
71	farroukh.majeed	Operations-2	08:46 15/05/2019	Noise Video	Pass	100%
72	muhammad.hassan	Operations-2	06:24 13/08/2020	Noise Video	Pass	100%
73	yousuf.bughio	Operations-2	05:51 26/07/2020	Noise Video	Pass	93%
74	bashir.ahmed	Operations-3	05:51 20/06/2021	Noise Video	Pass	80%
75	fazal.rehman	Operations-2	05:04 23/09/2020	Noise Video	Pass	93%
76	khalid.ahmed	Operations-2	04:32 15/08/2020	Noise Awareness Interactive	Pass	93%
77	muhammad.hassan	Operations-2	7-Dec-2021	Noise Awareness Interactive	Pass	100%
78	kashif.ali	Operations-2	7-Dec-2021	Noise Awareness Interactive	Pass	86%
79	ajjaz.ali	Operations-2	6-Oct-2021	Noise Video	Pass	86%
80	abdul.ghani	Operations-2	6-Sep-2021	Noise Awareness Interactive	Pass	100%
81	hanif.manjhu	Operations-2	7-Aug-2021	Noise Video	Pass	93%
82	rahmad.khan	Operations-2	8-Jun-2021	Noise Video	Pass	93%
83	mohammad.ramzan	Operations-2	8-Jun-2021	Noise Video	Pass	93%
84	samran.naveed	Operations-3	8-Jun-2021	Noise Video	Pass	86%
85	omair.ansari	Operations-2	8-May-2021	Noise Awareness Interactive	Pass	100%
86	asif.rasheed	Maintenance-2	6-Apr-2021	Noise Awareness Interactive	Pass	86%
87	mohammad.younus	Maintenance-1	5-Apr-2021	Noise Awareness Interactive	Pass	93%
88	yousuf.bughio	Operations-2	7-Feb-2021	Noise Video	Pass	93%
89	ali.dost	Operations-2	8-Nov-2020	Noise Video	Pass	100%
90	umer.mahmood	Operations-2	4-Nov-2020	Noise Awareness Interactive	Pass	80%
91	zulfikar.mughal	Operations-2	8-Sep-2020	Noise Video	Pass	80%
92	rifaqat.ali	Operations-2	9-Jun-2020	Noise Awareness Interactive	Pass	100%
93	muhammad.ashraf	Operations-2	8-Jun-2020	Noise Video	Pass	86%
94	latif.soomro	Maintenance-1	10-Apr-2020	Noise Awareness Interactive	Pass	93%
95	muhammad.ismail	Operations-2	9-Apr-2020	Noise Video	Pass	86%
96	shafqat.naqvi	Operations-2	5-Mar-2020	Noise Video	Pass	100%
97	kashif.ali	Operations-2	10-Feb-2020	Noise Video	Pass	93%
98	farroukh.majeed	Operations-2	5-Feb-2020	Noise Video	Pass	86%
99	hanif.manjhu	Operations-2	8-Jan-2020	Noise Awareness Interactive	Pass	100%
100	farroukh.majeed	Operations-2	5-Jan-2020	Noise Awareness Interactive	Pass	80%
101	farhan.ullah	Operations-2	10-Dec-2019	Noise Awareness Interactive	Pass	100%
102	ghulam.mustafa	Operations-2	10-Dec-2019	Noise Awareness Interactive	Pass	100%
103	fazal.rehman	Operations-2	10-Dec-2019	Noise Video	Pass	93%
104	fiaz.hussain	Operations-1	9-Dec-2019	Noise Video	Pass	93%
105	jumma.khan	TSD-1	7-Dec-2019	Noise Video	Pass	93%
106	muhammad.akmal	Operations-2	4-Dec-2019	Noise Video	Pass	86%
107	ajjaz.ali	Operations-2	11-Nov-2019	Noise Video	Pass	80%
108	ashraf.khan	Operations-1	9-Nov-2019	Noise Video	Pass	93%
109	ali.zeb	Operations-2	9-Nov-2019	Noise Video	Pass	100%
110	ali.dost	Operations-2	4-Nov-2019	Noise Video	Pass	86%
111	mohammad.hanif	Operations-2	3-Oct-2019	Noise Video	Pass	93%
112	muhammad.arif	Operations-3	11-Sep-2019	Noise Video	Pass	93%
113	amir.adnan	Operations-2	9-Sep-2019	Noise Video	Pass	100%
114	rifaqat.ali	Operations-2	6-Sep-2019	Noise Awareness Interactive	Pass	86%
115	naeem.baig	TSD-2	10-Aug-2019	Noise Video	Pass	93%
116	waleed.yaqoob	Operations-2	9-Aug-2019	Noise Video	Pass	100%
117	omair.ansari	Operations-2	9-Aug-2019	Noise Video	Pass	86%
118	muhammad.ismail	Operations-2	9-Aug-2019	Noise Video	Pass	86%
119	muhammad.fayyaz	Operations-2	9-Aug-2019	Noise Awareness Interactive	Pass	86%
120	zahid.ali	Operations-2	5-Aug-2019	Noise Video	Pass	100%
121	naseer.khan	Operations-1	11-Jul-2019	Noise Video	Pass	80%
122	khalid.ahmed	Operations-2	7-Jul-2019	Noise Awareness Interactive	Pass	100%
123	suhail.ahmed	Operations-2	4-Jul-2019	Noise Awareness Interactive	Pass	100%
124	umer.mahmood	Operations-2	4-Jul-2019	Noise Awareness Interactive	Pass	86%
125	farroukh.majeed	Operations-2	3-Jun-2019	Noise Awareness Interactive	Pass	80%
126	samran.naveed	Operations-3	10-May-2019	Noise Video	Pass	80%
127	kashif.ali	Operations-2	10-Feb-2019	Noise Video	Pass	100%
128	farhan.ullah	Operations-2	8-Feb-2019	Noise Video	Pass	93%
129	junaib.butt	TSD-2	11-Apr-2018	Noise Video	Pass	93%

# Certificate of Attainment

This is to certify that:

**muhammad asim**

has passed:

**Noise Awareness Interactive**

Version 3.0.0

an access company

09:10 13/07/2021



# Certificate of Attainment

This is to certify that:

**shahid naeem**

has passed:

**Noise Awareness Interactive**

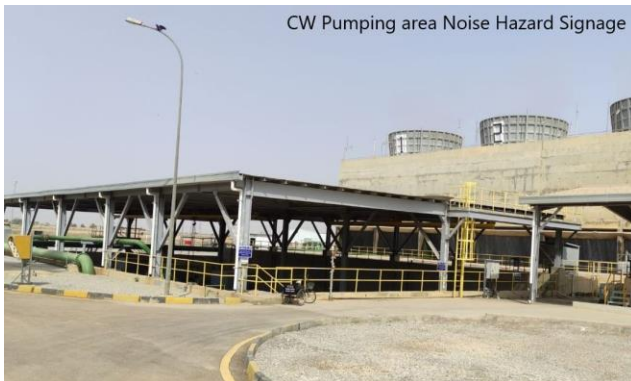
Version 2.1.3

an access company

10:32 19/08/2020







**Compliance Status of EMP Control Measures FY-2020**

**APPENDIX-F**

**UCH-II PROJECT**

Environmental / Social Impacts	Control & Mitigation Measures	Monitoring Frequency	Responsibility	Compliance Status
<b>Air Emissions</b>	<ul style="list-style-type: none"> <li>- Stack emissions monitoring in place through CEMS (Continuous Emission Monitoring System)</li> <li>- Annual third party stack emissions and ambient air quality testing</li> <li>- Monitoring compliance with National Environmental Quality Standards</li> </ul>	<ul style="list-style-type: none"> <li>- Monthly</li> <li>- Annually</li> </ul>	Uch-II O&M team	Complied
<b>Plant Noise</b>	<ul style="list-style-type: none"> <li>- Noisy equipment are placed inside the acoustic enclosure</li> <li>- Availability of silencers at intake and exhaust channels</li> <li>- Plant routine noise monitoring in place</li> <li>- High noise areas are identified and high noise signage displayed to enhance awareness</li> </ul>	Monthly	Uch-II O&M team	Complied
<b>Waste Water</b>	<ul style="list-style-type: none"> <li>- Uch-II is zero liquid discharge facility</li> <li>- Waste streams generated from plant (sanitary waste water, cooling tower blow down, demin regeneration waste water, oily waste water etc.) disposed off into onsite evaporation pond after required treatment</li> <li>- Waste water sampling, analysis and test record being maintained</li> <li>- Compliance monitoring and reporting in place</li> </ul>	Daily	Uch-II O&M team	Complied
<b>Water Sourcing</b>	<ul style="list-style-type: none"> <li>- Fresh surface water sourced from Pat Feeder Canal as per project design and irrigation permits from Government of Balochistan</li> <li>- Water consumption monitoring on monthly basis</li> <li>- Water conservation – Reuse from waste Reverse osmosis Plant</li> </ul>	On going	Uch-II O&M team	Complied
<b>Hazardous Materials</b>	<ul style="list-style-type: none"> <li>- Segregation of hazardous waste</li> <li>- Separate storage area for hazardous wastes</li> <li>- Hazardous waste disposal through waste contractor</li> <li>- Hazardous waste quantification on monthly basis and record being maintained</li> <li>- Regular inspection of storage areas</li> </ul>	Monthly	Uch-II O&M team	Complied
<b>Solid Waste Management</b>	<ul style="list-style-type: none"> <li>- Waste Management Procedure in place</li> <li>- Color coded waste bins available at different plant locations for different waste types</li> <li>- Designated land fill area for disposal of food / kitchen waste</li> <li>- Non Hazardous waste quantification on monthly basis and record being maintained</li> </ul>	Monthly	Uch-II O&M team	Complied
<b>Occupational Health and Safety</b>				
<b>Electrical Hazards</b>	<ul style="list-style-type: none"> <li>- Permit to work / Lock out Tag out procedure in place. All electrical isolations are ensured before performing any activity on energized systems</li> <li>- Access to high voltage areas (electrical substations, 220 KV switchyard, panel rooms etc.) is controlled</li> <li>- Electrical safety signage displayed in respective areas to enhance the risk awareness of staff</li> </ul>	Ongoing on regular basis	Uch-II O&M team	Complied

## UCH-II POWER (PRIVATE) LIMITED



<b>Confined Space Entry</b>	<ul style="list-style-type: none"> <li>- Identification of all confined spaces at plant</li> <li>- Confined Space entry procedure in place covering all confined space associated risks and control measures</li> <li>- Regular confined space training sessions with staff</li> <li>- Training sessions on Responsibilities of Standby Man</li> </ul>	Ongoing on regular basis	Uch-II O&M team	Complied
<b>Machine Guarding</b>	<ul style="list-style-type: none"> <li>- Moving and rotating parts of plant equipment are properly guarded to eliminate the risk of entanglement and injury</li> <li>- Permit to work / Lock out Tag out procedure in place to ensure the safety of staff working in plant equipment</li> <li>- All kinds of plant and machinery inherent dangers to workers are mitigated through engineering controls and safety devices</li> </ul>	Ongoing on regular basis	Uch-II O&M team	Complied
<b>Eye Head and Foot Protection</b>	<ul style="list-style-type: none"> <li>- Mandatory and Job specific personal protective equipment are provided to all staff and contractors working at plant</li> <li>- A procedure for provision, use &amp; maintenance of PPEs in place</li> <li>- Open toe shoes are not allowed inside the plant area</li> <li>- PPEs awareness signage displayed at prominent locations at plant</li> <li>- Regular monitoring of PPEs compliance</li> <li>- Contractors and visitors safety induction program in place</li> </ul>	Ongoing on regular basis	Uch-II O&M team	Complied
<b>Fire and Explosion Hazards</b>	<ul style="list-style-type: none"> <li>- Portable fire extinguishers are available throughout the plant area and buildings as per design layout and clearly identifiable</li> <li>- Inspection of fire extinguishers on monthly basis</li> <li>- Fire water system composed of fire water storage tanks, fire water pumps, fire water ring main (hydrants, monitors) available as per design and clearly marked</li> <li>- Emergency exits are well marked luminaries</li> <li>- Emergency response plan in place</li> <li>- No smoking policy in place</li> </ul>	Ongoing on regular basis	Uch-II O&M team	Complied
<b>Housekeeping</b>	<ul style="list-style-type: none"> <li>- Regular housekeeping drives program in place</li> <li>- Regular safety walks and housekeeping inspections</li> <li>- Lock out Tag out procedure in place</li> </ul>	Ongoing on regular basis	Uch-II O&M team	Complied
<b>Chemical Exposure</b>	<ul style="list-style-type: none"> <li>- Respirators are made available to staff works in chemical areas</li> <li>- Regular inspection of work areas and storage areas to detect any leakages/ spillage</li> <li>- Safe movement of chemicals and fuels</li> <li>- Spill emergency response procedure</li> </ul>	Ongoing on regular basis	Uch-II O&M team	Complied
<b>Noise Levels</b>	<ul style="list-style-type: none"> <li>- Provision of ear defenders (ear muff, ear plugs) to staff</li> <li>- High noise safety signage displayed around noisy equipment to enhance awareness</li> <li>- Awareness session with workers on High Noise Risks and Control Measures</li> </ul>	Ongoing on regular basis	Uch-II O&M team	Complied
<b>Heat Related Stress / Illness</b>	<ul style="list-style-type: none"> <li>- Provision of cooling neck bands to employees, shaded rest areas for workers and cold drinking water facilities during summer season</li> <li>- Rest break system is ensured during works in hot weather</li> <li>- Heat Stress awareness session with staff</li> </ul>	Ongoing on regular basis	Uch-II O&M team	Complied



# UCH-II POWER (PRIVATE) LIMITED

## Mitigation Measures – Photographs

### Noise Signage at High Noise Equipment and Areas



### Color Coded Waste Bins at different plant location



### Safety Awareness Signage (PPEs, Housekeeping, Chemicals and Electrical Hazards)





## Fire Equipment at Plant and Emergency Exits



## UCH-II ENVIRONMENTAL AND SOCIAL ACTION PLAN (ESAP)

### COMPLIANCE MATRIX FOR OPERATIONAL PHASE

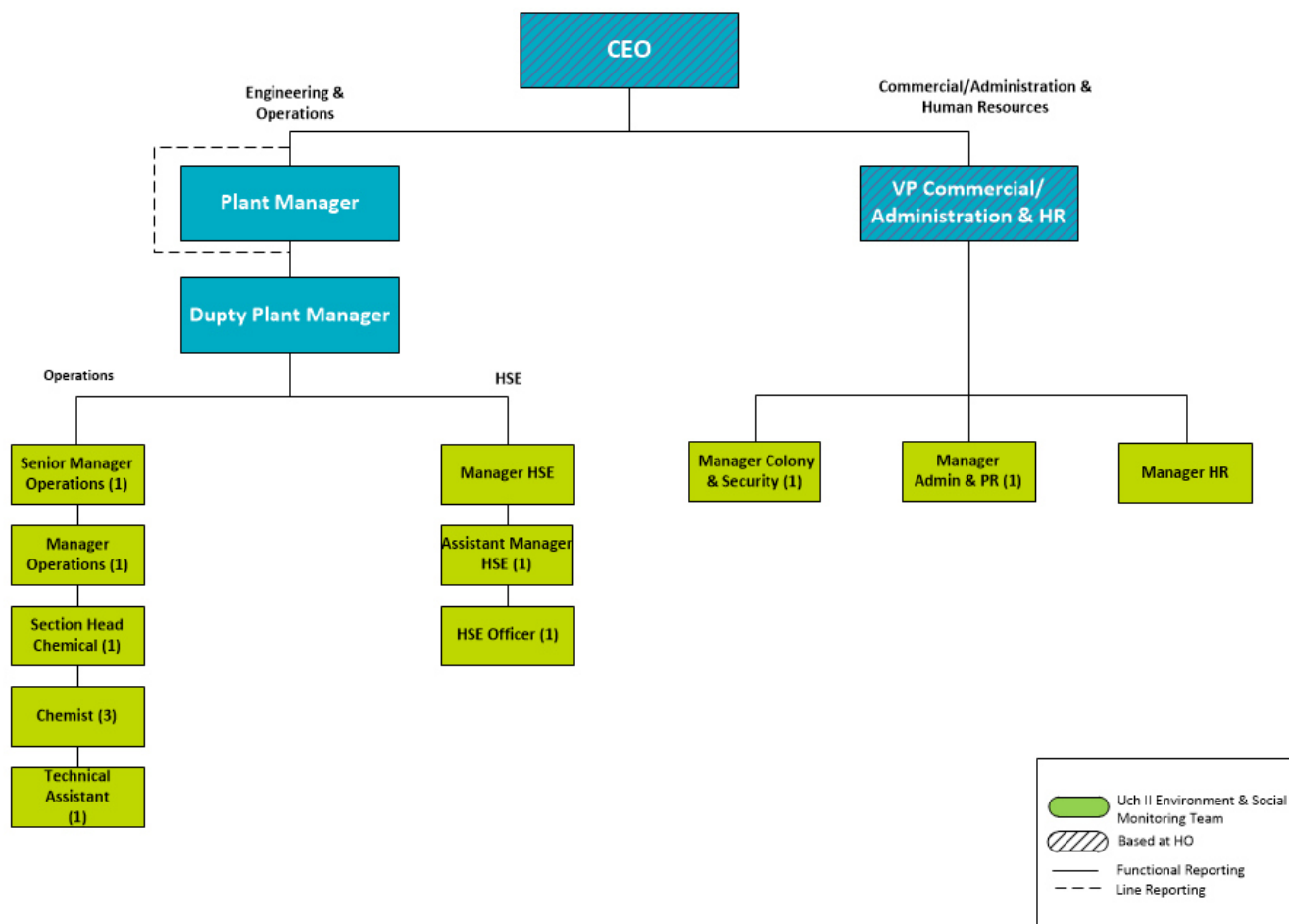
Compliance status of E&S Action Plan items relevant to the operational phase of Uch-II is provided below.

No.	Action	To be verified by:	Schedule	Status
PS1-2	Update the Environmental Management Plan (Appendix A of the January 2010 EIA) based on the final arrangements of the Operation & Maintenance, and implement.	A copy of the updated Environmental Management Plan including detailed monitoring program for the operational phase.	Update: Before the Commercial Operations Date. Implement: During the operational phase.	Completed.  The first table of this Appendix-F is a combination / integration of following two tables.  Table 4-2of EIA: Environmental management and monitoring plan, operational phase  Table 6-3of EMP: Mitigation Plan for Operation Phase  This table indicates the environmental aspects to be monitored by O&M team for operation phase as per the requirements mentioned in EIA and EMP. It also explains the control and mitigation measures implemented by Uch-II, monitoring frequencies and status of compliance.
PS2-1	Establish and implement the labor hiring policy and procedure (including local employee hiring criteria) in line with IFC Performance Standard #2.	Copy of the local employee hiring procedure.	Construction phase: Before first disbursement.  Operational phase: 6 months before the Commercial Operations Date.	Completed.  A copy of local employee hiring policy is attached as Appendix-J.
PS3-1	Incorporate the Company into the UPS Emergency Preparedness and Response Plan.	Copy of the Emergency Preparedness and Response Plan to cover both UPL and the Company operations.	Before commercial operation of the Company.	Completed.  Emergency Response Procedure is in place. Appendix K

# UCH-II POWER (PRIVATE) LIMITED

## APPENDIX.G

### Uch II Organogram (Power Station)



For Uch-II Project, the Owner (Uch-II) has appointed an O&M team comprising management / staff from UPL (Uch-I) with shared responsibilities. So this is basically a one team (Owner & O&M) directly reporting to Plant General Manager of UPL (Uch-I & Uch-II)



**APPENDIX H**

Attention: MR FIDA KHAN SB  
MAG USE  
OFFICE OF THE DIRECTOR GENERAL BALUCHISTAN  
ENVIRONMENTAL PROTECTION AGENCY  
GOVERNMENT OF BALUCHISTAN  
SAMUNGLI ROAD QUETTA



Office: 081-9201840 Fax: 081-9201180 Email: epa\_baluchistan@yahoo.com  
No. DG (EPA)/ 4688 /2014 Dated: 22-04-2014

To,

Mr. Babar Saeed Khan,  
Construction Manager  
# 48, Khayabar-e-Iqbal, Main Margalla Road  
F-7/2 Islamabad-400 Pakistan  
Tel: - +92512654901-4, Fax:-+92512654905

Subject:- Request for Confirmation of Compliance under BEPA  
IEE/EIA Regulation 2000.

With reference to your letter No.2.7.8/BEPA)/Corr dated 18<sup>th</sup> January, 2014 and to convey the approval of this Agency for the commencement of operation and commissioning of Combined Cycle subject to the conditions as already conveyed vide letter No. DG(EPA)/ 6269-72 dated 09-12-2010.

2. Furthermore, under section 14(1) of IEE/EIA Regulations,2000, the proponent is supposed to submit regular auditing and reporting in order to mitigate and manage the environmental impacts for the life of project.

(Naseer Khan Kashani)  
Director General

Master file.

**Incoming**

Sent To:	PM, BS, FK, RI
Date Received	22-04-14
Mail Reg. No.	98 LAI
File No./Divider Name	
Doc. to be Archived	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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## APPENDIX I

### FY-2020 UPL Site - Local Employment Ratio

Category		Total Strength	Local / Baluchistan	Local Employment Ratio
<b>O &amp; M Staff</b> (UPS & Uch-II)	Technical (Plant Operations & Maintenance)	145	25	25.5%
	EHS Staff		00	
	Warehouse		03	
	Office Staff		05	
	Drivers		04	
<b>Site Contractor Workers</b> (UPS & Uch-II)	EHS Staff (02 HSE Trainee Eng. + 01 HSE Assistant.	456	02	42.1%
	Other Staff (Local contractors & Security)		190	
Others (TCF Schools, Hospitals Dera Murad Jamali) CSR Initiative only		113	113	100%

## 1. Recruitment and Hiring Procedure

### 1.1 Employee Requisition

When a position is created, a formal request using Employee Requisition Form (Annexure B1-1), detailing the requirements including attributes of the persons; the required level of qualifications and experience; and nature/status of employment (i.e. permanent, temporary or casual), shall be submitted to the HR Department by the relevant HoD at the Head Office. In case of UPS recruitment, the HoD shall obtain written recommendation from the Plant Manager, prior to submission to HO HR. Salary offer to the selected individual will be made as per the comp & ben policy of the company. VP C,A &HR should ensure internal equity before making the offer.

Any new hiring must be in accordance with the 'Staff Strength' sanctioned by the CEO for each Department.

### 1.2 Position Description

The HR representative and respective HoD will jointly prepare a position description and document therein the complete job profile including responsibilities and tasks required to be performed along with the line of reporting. This document will be endorsed by the respective HoD/FH.

### 1.3 Recruitment

The HR Department will initiate the process of identifying suitable candidates. In this regard, the following methods may be adopted;

#### 1.3.1 Employee/Counter Parties Referrals

HoDs and/or other Employees may refer people they know either due to their association with the Company, or personally, for the vacancy/position. This may include persons deputed on certain assignments with the Company in the past with whom the respective HoD/other Employee has interacted with and are accordingly in a position to reasonably assess them.

#### 1.3.2 Executive Search Agencies

The HR Department may request any executive search agency to provide a list of the most suitable candidates along with their resumes, for a specific position based upon Position Description.

#### 1.3.3 Vacancy Announcement/Advertisement

In case a suitable candidate has not been identified using the methods mentioned above, it is the responsibility of the HR department in consultation with HoD, to advertise the position externally once approval of VP C, A & HR has been obtained.

Advertisement will be in a Daily Newspaper, having circulation, preferably nationwide and /or advertised on the internet and shall give the candidates adequate time to apply.

Contents of the advertisement should include the position's job description, required qualification & experience etc. The HR Manager/Representative and the HoD shall coordinate and finalize the contents of the advertisement.

### 1.3.4 Internal Transfer

If any existing employee is considered suitable and qualified for the position, he/she will have the opportunity to apply provided that this will not in any way adversely impact his/her existing Department.

### 1.3.5 Hiring of Relatives

The Company shall not allow the hiring of close relatives (parents, siblings, children, spouses and spouse siblings,) of existing Employees. Board approval is required for any exceptions.

## 1.4 Selection

UPL applies a merit based criteria in its selection process. The competency of a particular job applicant who meets the primary eligibility criteria shall be assessed in terms of his/her “knowledge, skills and attitude” in order to identify the individual best suited to fill the job vacancy.

As a broader policy for hiring human resources, UPL endeavors all efforts for employing local manpower with in O&M teams and contractual staff provided they qualify selection process and stipulated criteria. During hiring process, if two equivalent candidates have same relevant experience and educational credentials, preference will be given to local human resource.

The selection process will proceed as follows:

### 1.4.1 Defining Evaluation Criteria

The HR Department, in close consultation with the respective HoD, will frame-out evaluation criteria which will include behavioral competencies, interpersonal skills, job specific attributes, qualifications, previous job history, experience, present and expected salary, etc.

### 1.4.2 Screening of Resumes/Short listing

The HR Department will review the resumes received and short list the most suitable candidates for interviewing, in consultation with the respective HoD.

### 1.4.3 Initial Telephonic Interviews

Candidates short listed from the screening for positions at Head Office will be called by the HR Department. A representative of the HR Department along with the HoD, after giving a brief introduction of the organization and the vacancy, shall conduct a telephonic interview and will initially evaluate:

- i. The candidates basic communication skills; and
- ii. Reason for switching his/her current job, if relevant.

For positions above the Associate level, the Functional Head may also form part of the Interviewing Panel.

During the telephonic interview all candidates should be informed that they will be contacted within a specified time, if selected for the formal interview.

### 1.4.4 Interview Pre-requisites

If the candidate's communication skills/reasons for switching are determined to be satisfactory, then he/she shall be called for a formal interview. Candidates have to fill in Employment Application Form (Annexure B1-2) before the interview. The interview shall be scheduled on the time & date agreed by the HR department and the respective HoD (Interviewing Panel) and shall be jointly conducted by the interviewing panel. Candidates must be informed of:

- i. Any documents which the candidates are required to bring along;
- ii. Duration of the interview; and
- iii. Venue of the interview (Head Office or UPS)

At least one day prior to the interview, the HR representative shall ensure that the interviewing panel has all the requisite documentation to facilitate the interviewing process. These may include, but are not limited to:

- i. Interview Schedule;
- ii. Position Description of the vacancy;
- iii. CV for each candidate;
- iv. Interview Questions; and
- v. Candidate Scoring Sheet (Annexure B1-3).

### 1.4.5 The Interview

A good interview is two-fold to ensure that hiring at UPL is effective i.e., it assesses the suitability of the candidate for the respective job, and demonstrates to the candidate that UPL presents one of the best career opportunities for him/her.

The preliminary interview will be conducted by the HR department to assess soft skills; degrees; and work experience certificates. Second interview will be carried out by the interview committee for detailed evaluation of the candidate. The committee shall compose of at a minimum, an HR representative and the relevant HoD. The interviewers shall review the candidate's performance during the interview and arrive at a decision:

- i. Using a common rating system of the Candidate Scoring Sheet, without making assumptions;
- ii. Relying on answers given/behaviour demonstrated;
- iii. Keeping all the information in context and not focusing on any one or two issues; and
- iv. Making an assessment based on the candidate's attitude and interests, observed during the interview.

### 1.4.6 Written Test

Candidates further short-listed in the interview will also be required to appear in a written test to demonstrate his/her language, perceptions, communication and drafting skills. He/she shall also be asked to indicate his/her minimum acceptable salary. Tests shall be checked and scored by the HR Department. The results along with the interviewing panel's recommendations shall be documented on the Candidate Scoring Sheets.

Not more than five candidates shall be short listed on the comparative sheets. Unsuccessful candidates should be informed within ten days of their application.

### 1.4.7 Candidates Travelling Expenses

As a goodwill gesture, UPL will bear the travelling expenses of all such candidates who are not residents of Islamabad or Dera Murad Jamali, as the case may be. Admin Department will arrange or reimburse expenses as per Company policy.

### 1.4.8 Reference and Background Checks

The short listed candidates will be asked to provide professional/personal references who may be contacted by UPL. In this respect past employers or colleagues (in case of employee referrals) may be contacted. UPL also retains the right to conduct background security clearance checks.

### 1.4.9 Final Interview

After the interviews have been completed, the HR Department will consolidate the views of the interviewing panel.

In case of recommendation, not more than three candidates shall be short listed for the final interview. The HR Manager shall schedule the final interview for the short listed candidates with the final authorities as per financial Delegations, whose decision will be conclusive.

## 1.5 Hiring

If the Employee is successful in his/her interview(s) and the Company decides to culminate the recruitment process by offering employment to the candidate, the below procedures must be followed:

### 1.5.1 Employment Offer

The HR Department will provide a copy of draft employment contract outlining the terms and conditions of the employment including the status of employment (i.e. permanent, contractual, and temporary); the remuneration package being offered; and joining date, to the selected candidate. The VP C, A & HR will confirm the terms and conditions on offer for this role to the HR Department before the draft employment contract is issued.

The employment is subject to verification of the references provided by the candidate and successful clearing of the general medical examination. HR department will arrange pre-employment medical examination (examinations will be arranged at designated medical facility at Islamabad or elsewhere and provide hospital reference letter to the candidate. UPL will bear the pre-employment medical expenses.

### 1.5.2 Employment Contract

Upon acceptance of the employment offer, the HR Department will issue a formal employment contract which will be signed by HR Function Head. The candidate will be requested to return the signed copy of the employment contract within 3 working days to indicate his/her acceptance.

### 1.5.3 Change of Residence


Local UPS staff after joining are not allowed to shift their residence to another city as this will affect R&R cycle of the individual(s) and subsequent requirement of backup for the position.

### 1.5.4 Employment Orientation Package

Upon receipt of the signed copy of the Employment Contract, the HR Department will forward an information package to the new hire which will include the following:

- i. Employee Record Form;
- ii. Health Questionnaire Form (HQF);
- iii. Direct Deposit Authorization Form;
- iv. Account Opening Form along with a Company letter for opening the salary account with the scheduled bank;
- v. Fact Book of the Company;


- vi. Position Description for the new hire;
- vii. UPL Standard Operating Procedures ("SOPs");
- viii. Ethics Charter (to be signed by the Employee);
- ix. Anti Bribery Policy Statement (to be signed by the Employee); and
- x. Code of Conduct.

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 1 OF 31</b>

## APPENDIX .K UCH POWER STATION PROCEDURE

### EMERGENCY RESPONSE PLAN

ACTION		NAME / DESIGNATION	SIGNATURE	DATE
PRODUCED		J Finlay/Project Engineer		24.05.2009
REVIEWED		Ashok Kumar/Deputy Opts Mgr		26.05.2009
APPROVED		J McLoughlin/Plant Manager		31.05.2009
REVIEW / REVISION HISTORY				
DATE	REV	DESCRIPTION OF CHANGE	PRODUCED	APPROVED
01-Sep-2009	1.1	For changes, compare Rev. 1.0	J Finlay	J McLoughlin
03-Sep-2009	1.2	For changes, compare Rev. 1.1	P Hogan	J Finlay
08-Feb-2010	1.3	Section 6.2.1 updated	Hasan Abbas	J McLoughlin
22-Mar-2010	1.4	Section 6.2.1 updated. Ops Mgr changed to SMR.	Paul Greenwood	J McLoughlin
11-Oct-201	2.0	For changes, compare with Rev. 1.4	Atique Ahmed (SMR)	Hasan Shehryar Malik (PM)
01-Jan-2012	2.1	Section 3 and Company logo and name	Mian Sharif (SCE)	Waseem Ellahi (PM)
13-Aug-2014	2.2	Procedure reviewed, sec 6.2 names / contact numbers updated, company name and logo updated	Mian Sharif (SCE)	Waseem Ellahi (PM)
22-Nov-2015	3.0	Procedure Revised, Section 4.0, 5.0 & 6.7.1 and Change of Company Logo updated	FIDA KHAN	WE PLANT MANAGER
20-Nov-2016	3.0	REVIEWED, NO CHANGE	FIDA KHAN	WE PLANT MANAGER
20-Nov-2017	3.0	REVIEWED, NO CHANGE	FIDA KHAN	WE PLANT MANAGER
20-Nov-2018	3.0	REVIEWED, NO CHANGE	FIDA KHAN	WE PLANT MANAGER
13-Jun-2019	3.1	SECTION 1, 2, 3, 4, 5 & 6 REVISED AND UPDATED	FIDA KHAN	WASEEM ELLAHI (PM)
24-Aug-2020	3.1	REVIEWED, NO CHANGE	FIDA KHAN	WASEEM ELLAHI (PM)

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
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This procedure is a key element in the Integrated Management System which drives continual improvement in all aspects of our business including Quality, Health & Safety and Environment.


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It is the users' responsibility to ensure they are working with the latest approved version.

## TABLE OF CONTENTS

1	PURPOSE.....	1-3
2	SCOPE.....	2-3
3	REFERENCE / ASSOCIATED DOCUMENTS .....	3-3
4	DEFINITIONS / ACRONYMS .....	4-5
5	RESPONSIBILITIES.....	5-7
6	PROCEDURE .....	6-10
7	APPENDIX.....	7-29



 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
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<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 3 OF 31</b>

## 1 PURPOSE

This procedure outlines the process for the identification of legal and other requirements relating to Health, Safety, & Environment (HSE) to ensure we meet our compliance obligations for operation of Uch Power Station.

The purpose of this procedure is:

- To provide a prompt and co-ordinated response during an unexpected event that will ensure the protection of the staff, the plant, the public and the environment.
- To list the foreseeable hazards and emergencies that could arise and provide procedures or guidelines to be adhered to and outline the responsibilities and actions to be taken by designated company staff.
- To ensure an effective mode of communications between company staff, between company staff and the relevant authorities for the co-ordination and management of the response to an emergency.


## 2 SCOPE

This procedure applies to all activities carried out at Uch Power (Private) Limited and Uch-II Power (Private) Limited.


The procedure covers, recognizing the types of emergency that could occur, providing information and instructions for company staff, allocation of resources and co-ordination with off site emergence services.

## 3 REFERENCE / ASSOCIATED DOCUMENTS

H&S PROC/005-M	ENGIE procedure
	Electrical and Mechanical Safety Rules (SR-EM)


 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
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<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 4 OF 31</b>

ER-PR-002	Actions in the Event of a Bomb Threat
ER-PR-003	Security Emergency Evacuation Plan
ER-PR-004	Medical Emergency Evacuation Plan
ER-PR-005	Actions in the Event of a Fire


 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 5 OF 31</b>

## 4 DEFINITIONS / ACRONYMS

UPS	UCH POWER STATION
UPL	UCH POWER (PRIVATE) LIMITED
UCH-II	UCH-II POWER (PRIVATE) LIMITED
CCR	Central Control Room
OGDCL	Oil & Gas Development Corporation Limited.
NPCC	National Power Control Centre
SCE	Shift Charge Engineer on duty
AE Operations	Associate Engineer (The shift CCR operator on duty).
FIRE WARDEN	A nominated person, who will perform his duties as a lead Fire Warden at assigned buildings or colony areas.
ADMIN FIRE WARDEN	A nominated person, normally located in the Administration Building, as the Fire Warden.
Workshop & Warehouse FIRE WARDEN.	A nominated person, normally located in the Workshops & Warehouse Building, as the Fire Warden
COLONY FIRE WARDEN	A nominated person, normally located in the Colony, as the Fire Warden.
Deputy FIRE WARDEN	A nominated person, normally located in the Colony, Administration Building, Workshop or Warehouse Building, as Deputy Fire Warden.
COMPETENT PERSON	An individual who has sufficient technical knowledge and/or experience, to enable him to avoid DANGER and has been authorised in writing, by an appropriate officer of UPL, to carry out duties specified which may include receipt, transfer and clearance of specified SAFETY DOCUMENTS.
CONTRACTORS REPRESENTATIVE	An individual nominated by his company to represent the company.
DANGER	A risk to health or of bodily injury.

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 6 OF 31</b>

DRABC	D Assess the DANGER of the situation to the casualty and yourself. R Check the response (consciousness) of the casualty. A Check that the casualties airways are clear. B Check the casualties breathing. C Check the casualties circulation, check for a pulse.
FIRE TEAM LEADER	The FIRE TEAM MEMBER nominated as FIRE TEAM LEADER, whose name is listed on the CCR FIRE TEAM LEADER notice board.
FIRE TEAM MEMBER	A trained person who is an active member of the UPS Fire Team.
SECURITY MANAGER	A UPL designated sub-contractor employed to manage the Security Team responsible for safeguarding the UPS site. SPILLAGE HANDLING TEAM LEADER The UPL person nominated to lead the UPS Spillage Handling Team.
EMERGENCY ASSEMBLY POINT:	Car Park area at the Administration building entrance. Colony behind the Medical Centre. Back Up ( At CCR car park )

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
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## 5 RESPONSIBILITIES

The following personal responsibilities apply: -

### **Plant Manager**

For reviewing all Plant Emergency Plan reports and approving where appropriate, the recommendations put forward.

### **Safety Management Representative**

For the periodic review of this procedure.

For issuing a report with recommendations as necessary, on all incidents to the Plant Manager.

For liaison with the Emergency Services as necessary following the return to normal conditions.

For coordinating Plant Emergency Plan drills on a regular basis.

For ensuring that a written and/or photographic record of training and drills are kept for audit purposes.

### **Assistant Manager Administration**

For keeping the staff attendance and visitors books up to date.

For ensuring communication with the CCR/security staff is available following the decision to evacuate the plant during normal office hours.

### **SCE**

The SCE will take the role of Emergency Coordinator.

For carrying out the initial assessment of the situation, taking command of the incident locally and taking the appropriate action.

For completing and forwarding an event report to the Senior Operations Manager.

For completing an Accident Report Form as per Procedure SF-PR-011 if a person is injured.

### **AE Operations**


The AE Operations (Control Room Operator) will take the role of Emergency Communicator as the central point for the receipt and making of all internal and external phone calls and two-way radio calls in the CCR.

For relaying of information to and from the SCE and to the Emergency Teams.

For sounding the plant fire alarm and calling the appropriate Emergency Services.

For keeping an up-to-date list of the emergency phone numbers in the CCR.

For the weekly testing of the building and plant emergency alarms.

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
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<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 8 OF 31</b>

### **FIRE TEAM LEADER**

To collect information from the SCE and make a quick plan to:

- a) fight any fire or
- b) execute any rescue operation, if this is the declared emergency, or if any one is found missing in the roll call.

### **ADMIN FIRE WARDEN**

Responsible for the ensuring that the Administration Building office staff is accounted for.

Responsible to examine the Administration Building, in the company of any fire team or shift personnel members, to determine that the Administration Building is safe after the risk assessment of the facts.

Responsible for the roll call at the plant EMERGENCY ASSEMBLY POINT and liaison with the SCE.

If the FIRE WARDEN is going to be absent from the building for more than a day, he should notify his deputy to ensure his duties are covered.

### **WORKSHOP & WAREHOUSE FIRE WARDEN**

Responsible to ensure the evacuation of all occupants from Workshop & Warehouse Buildings.

Responsible to examine the Workshop & Warehouse Buildings, in the company of any fire team or shift personnel members, to determine that the Workshop & Warehouse Buildings are safe after the risk assessment of the facts.

If the Workshop & Warehouse Buildings FIRE WARDEN is going to be absent from the building for more than a day, he should notify his deputy to ensure his duties are covered.

### **COLONY FIRE WARDEN**

Responsible for ensuring that the Colony inhabitants are accounted for.

Responsible to examine the Colony, in the company of any fire team or shift personnel members, to determine that the Colony is safe after the risk assessment of the facts.


Responsible for the roll call at the colony EMERGENCY ASSEMBLY POINT and liaison with the SCE.

If the Colony FIRE WARDEN is going to be absent from the building for more than a day, he should notify his deputy to ensure his duties are covered.

### **DEPUTY FIRE WARDEN**

Responsible for coordinating with FIRE WARDEN that the buildings occupants staff is accounted for.

Responsible to examine the Administration Building, in the company of any fire team or shift personnel members, to determine that the his assigned area is safe after the risk assessment of the facts.

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 9 OF 31</b>

When the evacuation alarm sounds, the Deputy Fire Warden should check that the Fire warden is available. If not, he should undertake the FIRE WARDEN's duties.  
Responsible for the roll call at the plant EMERGENCY ASSEMBLY POINT and liaison with the SCE.

#### **SECURITY MANAGER**

For informing the bomb disposal team and local police.  
For liaising with the Emergency Services as necessary following the return to normal conditions.

#### **CHEMICAL / OIL SPILLAGE RESPONSE TEAM LEADER**

To lead the Spillage Handling Team to cope with an environmental emergency.

#### **LINE MANAGER**


For ensuring, in the event of a plant evacuation, that all their staff are accounted for and relaying this information to the SCE.

#### **CONTRACTORS REPRESENTATIVE**

For ensuring, in the event of a plant evacuation, that all their staff are accounted for and relaying this information to the FIRE WARDEN.

#### **ALL PERSONNEL**

To be vigilant at all times and notifying the CCR telephone 333 for UPL & 666 for UCH-II on discovering a fire or other emergency covered by this procedure.  
To comply with this Procedure.

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 10 OF 31</b>

## 6 PROCEDURE

### 6.1 Introduction

The design, construction and operation of Uch Power Plant & UCH-II Power Plant takes into account the highest standards of safety. Nevertheless procedures are necessary to respond to and control any emergency that should arise.


The purpose of this document is to set out measures to be taken by all staff at Uch Power Station in the event of an emergency.

Given the varied circumstances which might arise, it is impractical to document every detailed action to be taken in every emergency. Instead this EMERGENCY RESPONSE PLAN (E.R.P.) provides a clear and concise reference of important actions for the foreseeable emergency situations. An easy to follow flow chart for Emergencies is given in Appendix 1. Emergency Action Plans have been developed to deal with localized plant incidents and are maintained on the LAN.

### 6.2 Names and Contact Numbers

<b>Position</b>	<b>Plant</b>	<b>Colony</b>	<b>Outside Line</b>
Emergency (CCR)	333	333	0838711755
Emergency (CCR Uch-II)	666	666	0838711755
Plant Manager	212	312	0838612966
Sr. Manager Maintenance	609	315	300 088 5686
Senior Operations Manager	208	308	300 0720105 03028510114
Manager Administration / Colony Security	637 615	737 314	03008520981 03033330555
Operations Manager	208	308	0838612962
Shift Charge Engineer	222, 223, 281	-	0838711755
Manager HSE	279	719	03028510214
Security Manager	510	510	
Deputy Commissioner Nasirabad			0838711683
Fire Fighting Brigade – DMJ	-	-	-
UPS Medical Center	444, 447,	386, 445, 347	03332802022 03007358424 03002870171
Civil Hospital – DMJ			0838710603
Additional Security Post at UPS	518		




 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 11 OF 31</b>

Sadder Thana – DMJ			0838710639 0838710057 08387110167
Sub Divisional Magistrate(SDM) - DMJ			

### 6.2.1 Uch Power Plant Contacts

Waseem Ellahi Plant Manager	TEL OFFICE TEL HOME	212 312
Mohammad Abbas Sr. Manager Maintenance	TEL OFFICE TEL HOME	226 326
Allah Warayo Maintenance Manager	TEL OFFICE TEL HOME	205 305
Major Security Manager	TEL OFFICE	510
Syed Aamir Adnan Sr. Operations Manager	TEL OFFICE TEL HOME	208 308
Ahmed Ali (EMR) Sr. Manager TS	TEL OFFICE TEL HOME	211 311
Atique Ahmed (SMR) Operations Manager	TEL OFFICE TEL HOME	225 325
Hassan Abbas (QMR) DM C&I	TEL OFFICE TEL HOME	207 307
Aslam Hashmi DM Electrical	TEL OFFICE TEL HOME	206 306
Suhail Ahmed DM Chemical	TEL OFFICE TEL HOME	227 327
Shams Iqbal DM Mngr. Admin. & HR	TEL OFFICE TEL HOME	216 316
Tariq Jamali	TEL OFFICE	214

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 12 OF 31</b>

Mngr. Security & PR                      TEL HOME              314

Doctor    TEL OFFICE              447  
    TEL HOME              368

## 6.2.2 PLANT ADDRESS

Uch Power Plant  
Dera Murad Jamali  
District Nasirabad

### STATION PHONE NUMBERS

Control Room Direct Line              0838 711755

UPL Shift Charge Engineer              222

UCH-II Shift Charge Engineer Hand Phone    281


Control Room Fax Number              0838 711754

UPL Station Internal Emergency Number    333

UCH-II Station Internal Emergency Number    666

## 6.2.3 OUTSIDE EMERGENCY CONTACTS

	<b>DMJ</b>	<b>Sukkur</b>	<b>Karachi</b>	
<b>Area Code</b>	0838	071	021	
<b>Civil Hospital/ Ambulance</b>	710603 NIL	5623699 115	9215740 115	
<b>Fire Brigade</b>	-	16	16	
<b>Police Station</b>	710057 NIL	5630210 15	NIL 15	
<b>DPO</b>	710598	9310560		
<b>Railway</b>	117	117	117	
<b>Irrigation Dept.</b>	710533	NIL	NIL	

 UCH POWER (PRIVATE) LIMITED UCH-II POWER (PRIVATE) LIMITED	DOCUMENT TITLE	DOC. NO.	EFFECTIVE DATE
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
PREPARED BY: J Finlay	APPROVED BY: PLANT MANAGER	REV NO. 3.1	PAGE 13 OF 31

## 6.3 Definition of an Emergency

### 6.3.1 Incident

An event, usually injury, fire or spillage, with the potential to cause or causing minor injury or minor internal damage that can be handled using the station internal resources without calling for external help. Poses no external threat and can be fully contained within the station site.

Examples: Minor cuts and bruises, small fires that can be put out with extinguishers or 2" hose reel, small spillages.

### 6.3.2 Emergency

An event, usually injury, fire, spillage or explosion, with the potential to cause or causing major injury (any injury causing lost time beyond the day of the accident) or damage that will require the help of outside agencies and /or with the potential to pose a threat external to our site.

Examples: Major cuts. Injuries to head, neck or back. Larger fires or spillages, floods, storms or sabotage.

## 6.4 General Emergency Procedures

### 6.4.1 Safety of Public


Uch Power Plant is built and operated to standards which ensure that the public will not be at risk from its operations. However if the safety of the general public should become a concern in the event of an emergency, the police should be informed immediately as they have the authority to take the appropriate action.

### 6.4.2 Safety of Staff

In any emergency the first priority is to remove staff from all sources of danger, to make sure that all are accounted for and to summon medical help as quickly as possible for those staff who need it.

To achieve this, the following are essential:-

- 1) Speedy evacuation and assembly of personnel at the EMERGENCY ASSEMBLY POINT.
- 2) Ensure all staff is accounted for and uninjured.

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 14 OF 31</b>

- 3) Isolate all sources of further danger, machinery, electrical, gas, hydrogen, oil, etc.

In order to ensure all people present on site are accounted for a head count will be conducted at the EMERGENCY ASSEMBLY POINT. Department managers, section head and contractors competent persons will report to the FIRE WARDEN. In addition attendance records and visitors records will be used to verify head count if required.

#### 6.4.3 Safety of Plant

The second priority is the safety of the plant. Having ensured that all staff is safe and well, action must be taken quickly to minimize the damage that may be caused to the plant by the emergency.

To achieve the safety the following are essential:-

- 1) Shut down endangered plant quickly.
- 2) Isolate all sources that could add to the danger, electrical, gas, oil, etc.
- 3) Quickly tackle emergency with equipment and resources available, until help arrives.

#### 6.4.4 Emergency Services


It is vital to the safety of personnel and plant that the emergency services are called quickly. It is better to call them out and find that they are not needed, than to wait and then find they are badly missed.

The gate security should be informed that the emergency services are coming as they can inform them of the nature and extent of the emergency, where they should report to and provide them with a copy of the E.R.P.

When the emergency services arrive on site they shall assume charge of the emergency and UPL & UCH-II staff shall provide them with whatever assistance and advice they require.

When first calling the emergency services, they should be informed of the following,

**NAME OF STATION:** UCH POWER PLANT / UCH-II POWER PLANT

 UCH POWER (PRIVATE) LIMITED UCH-II POWER (PRIVATE) LIMITED	DOCUMENT TITLE	DOC. NO.	EFFECTIVE DATE
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
PREPARED BY: J Finlay	APPROVED BY: PLANT MANAGER	REV NO. 3.1	PAGE 15 OF 31

**LOCATION:** Dera Murad Jamali  
District Nasirabad

**PHONE NUMBER:** + 92 838 711740-9

**NUMBER AND NATURE OF INJURED PERSONS**

**TYPE NATURE AND EXTENT OF FIRE OR SPILLAGE**

**NATURE AND EXTENT OF OTHER HAZARDS**

#### 6.4.5 Security

Gate security should be informed of the emergency. They will need to know its nature, its location, what emergency services are on the way and where they should direct them when they arrive.

They should hand over a copy of the E.R.P. to the emergency services when they arrive. They should restrict access to the site to UPL staff and emergency services only. They should ensure that no members of the public gain access to the site.

#### 6.4.6 Senior Operations Manager

The senior manager available onsite should be informed as early as possible of the nature and extent of the emergency so as he can assist the Shift Charge Engineer in handling the situation.


#### 6.4.7 Media

At no time is any member of UPL and UCH-II staff to enter into discussion with or make comments to any members of the radio, television or newspapers. If any member of the media makes contact with you, they are to be politely referred to the Plant Manager or Acting Plant Manager.

### 6.5. Specific Emergency Types

#### 6.5.1 Introduction

In order to identify the important actions to be taken in an emergency, it is necessary to classify emergencies by their nature, threat and location.

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 16 OF 31</b>


Actions to be taken in response to emergencies are based on the following four essentials,

- 1) Understand the nature of the threat. Unless the threat is correctly evaluated then resulting action may be inappropriate.
- 2) Minimize the risk to people, environment and equipment. The severity of the damage is lessened if the exposure is reduced.
- 3) Contain the threat to avoid escalation. It is difficult to safely combat any threat if the situation is unstable.
- 4) Eliminate the threat by appropriate action.

### 6.5.2 Types of Hazard or Emergency

The possible types of emergencies that could occur are set out below.


Type of Hazard or Emergency	Possible locations or events
<b>FIRE</b>	Central Control Building Administration Building Workshop and Stores Building Ancillary Building Fuel Storage Tank Fuel Handling Systems Gas Turbine/Generator Steam Turbine/Generator HRSG Gas Receiving Station Hydrogen Building Transformers Electrical Switchgear Emergency Diesel Generator Laboratory and WTP Building Workshop and Stores Buildings Ancillary Building Distillate Fuel Storage Tank Distillate Fuel Handling Systems
	Workshop and Stores Buildings

 UCH POWER (PRIVATE) LIMITED UCH-II POWER (PRIVATE) LIMITED	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 17 OF 31</b>

<b>EXPLOSION</b>	Chemicals Storage Area Ancillary Building Distillate Fuel Storage Tank Distillate Fuel Handling Systems HRSG Gas Turbine/Generator Steam turbine generator Gas Receiving Station Hydrogen Building Transformers Electrical Switchgear Emergency Diesel Generator Battery Charging Area Bottled Gas Storage Area Air Receivers
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Type of Hazard or Emergency	Possible Locations or Events
<b>SPILLS</b>	Workshop and Stores Building Distillate Fuel Storage Tank Distillate Fuel Handling Systems Gas Turbine Steam Turbine Transformers Lubricant Storage Chemical Storage WTP Area and Laboratory

Type of Hazard or Emergency	Possible Locations or Events
<b>GAS LEAK</b>	Gas Receiving Station Gas Lines Gas Turbine GT,ST/Generators Hydrogen Building Chemical Storage WTP Area and Laboratory Bottled Gas Storage

 UCH POWER (PRIVATE) LIMITED UCH-II POWER (PRIVATE) LIMITED	DOCUMENT TITLE	DOC. NO.	EFFECTIVE DATE
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
PREPARED BY: J Finlay	APPROVED BY: PLANT MANAGER	REV NO. 3.1	PAGE 18 OF 31

Type of Hazard or Emergency	Possible Locations or Events
CIVIL	Riot Bomb Sabotage Theft

Type of Hazard or Emergency	Possible Locations or Events
NATURAL EVENT	Storms Lightning Flooding Earthquake


Type of Hazard or Emergency	Possible Locations or Events
MEDICAL EMERGENCY	Electric Shock Slips and Falls Machinery Failure Steam Leakage Chemical Leakage Burns Falling Objects Lifting and Handling

## 6.6 Specific Emergency Summaries

### 6.6.1 Leaks without Fire

In this case there is the risk of an explosion or a fire if the leakages ignite. Further there is the risk that toxic gases may injure individuals and /or hamper the remedial efforts. Where gases involved are lighter than air the leakages tend to rise, limiting the risk of encountering an ignition source or endangering people. Gases heavier than air can fall to ground, drift with the wind and poison individuals not in the immediate area or be ignited by remote means.



 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 19 OF 31</b>

Containing the threat means that sources of ignition must be avoided, particularly downwind/downstream of the incident. It is essential therefore that ignition sources are eliminated, particularly electrical, liquids are not allowed to spread, good ventilation is obtained and vehicles are prevented from entering any gas cloud. Wind socks which indicate wind direction are provided at strategic locations.

Minimizing the risk can be achieved by reducing the leaking quantities by depressurizing gas leaks and isolating as far as possible, and by the use of protective equipment.

Eliminating the risk involves dispersing the remaining gas by water spray and covering flammable liquids with foam.

### **6.6.2 Fires and Explosions**

In this case the major risk is that the situation escalates due to damage from the fire. This can manifest itself in either adjacent tanks catching fire, cable racks or oil/gas pipes becoming conduits for the fire.


The effect of heat radiation is to warm adjacent surroundings. In the case of a flame the radiation depends principally upon the flame temperature, which may be as low as 400 deg C at the base of the flame, rising to 900 deg C in the upper reaches. This means that the radiation profile is variable, being relatively low below the flame, and rising rapidly when level with the flame or above the flame.

In the case of people, a human body can stand some 1.5 kw/m<sup>2</sup> for extended periods without protection. This means that an unprotected person can approach within 50 meters of an elevated fire, for example to operate sub surface foam injection.

With regard to equipment, any warming above 250 deg C may result in internal ignition of hydrocarbons. In general cooling will only be required if the equipment is within 15 meters of the flame.

Containing the fire thus involves ensuring that there is sufficient water cooling on adjacent surroundings. Spread should be avoided by ensuring any drain paths for hydrocarbons are closed and any free hydrocarbons are covered with foam.

Minimizing the risks includes depressurizing any high pressure equipment, reducing liquid levels at risk by pumping liquid to a safe location, isolating electrical supplies.

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 20 OF 31</b>

Once the fire is under control, elimination of the threat involves extinguishing the fire. Care should be taken that burning liquids or gases are not extinguished until the source of the leak has been stopped, otherwise an explosive gas cloud will be formed.

For materials below their boiling points the fire only burns in the vapour. This is generated by radiation from the flame above. Interrupting the heat radiation completely will thus extinguish the fire. This can only really be effective for hydrocarbons if foam is used, as water simply sinks beneath the hydrocarbon. Further, use of water on hydrocarbon fires can be dangerous. In the later stage of a fire the water may boil under the hydrocarbon surface, resulting in dramatic escalation in burning rates.

It is important to know that the fire will not be extinguished unless the foam coverage is total. Attempting to extinguish a fire with insufficient foam will be simply wasteful.

### 6.6.3 Spillage


The major threats in an oil spill or chemical spill emergency are:

- Disruption to the integrity of essential public services
- Disturbance to the ecology of wildlife and marine habitats
- The effects on ecology, social amenities and commercial interests.
- The effects of disposal of contaminated spoil

Central to any estimation of a spill threat is the size and nature of the spill, its likely direction of movement and the area and nature of the potential impact.

### 6.6.4 Medical Emergency

In a medical emergency the aim is to maximize patient care. The major difficulty is that there is potentially a balance of risk to be considered if patient care is delayed then the condition may deteriorate. Alternatively, premature movement before stabilization of the patient may also cause deterioration in condition.

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 21 OF 31</b>

Where injuries are relatively mild, then initial treatment by a First Aider, followed by expert medical assessment is generally appropriate.

Where injuries are severe, initial first aid is important, particularly in ensuring breathing airways remain open, any bleeding is staunched, and neck/spine injuries are immobilized. Expert medical treatment will then follow.

A major injury should be potentially assumed if there is;

- Any loss of consciousness
- Burns to face/breathing passages
- Burns affecting more than 15% of the body
- Evident bone fractures
- Major bleeding
- Electric shock
- Suspected spinal/neck/head injuries

At all times consideration must be given to relatives and families of the injured person, particularly by maintaining confidentiality until next of kin have been informed and informing them promptly and humanely in order to avoid additional distress.

### **6.6.5 Bomb Threat**


Of all emergency situations, the bomb threat is the most difficult to assess. Hoax phone calls are a realistic possibility which have occurred elsewhere, nevertheless in view of the potential impact all bomb threats must be considered seriously.

In assessing the degree of threat, cognizance should be taken of any pertinent background circumstances, for example whether the Company has recently attracted adverse publicity, or taken a stance which might aggravate certain groups or individuals. To the extent that this may make the threat more credible.

An important input to the threat assessment is the information route for the threat and anything gleaned by the recipient, particularly with regard to timing, location, nature and motivation. The receiver should therefore make every attempt to achieve maximum information regarding the threat.

If the threat appears to be credible to Senior Management then action will be considered to minimize the risk. This will include;

- Inform appropriate authorities
- Evacuation of non essential personnel

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 22 OF 31</b>

- Closing down the plant

If a suspicious object is found during a search then evacuation will be ordered where the location poses a threat to the safety of individuals. The size of the object found should give an estimate of the threat it poses. As bombs may be detonated by radio, all radio operation should cease.

#### **6.6.6 Civil Disturbance**

The major threats in a civil disturbance are;

- Personal violence against individuals
- Objects thrown at people, buildings and equipment
- Difficulties in free passage of individuals to/from work

In order to minimize the effect of these, security should be maximized and the station should be manned by the minimum key staff, with all other personnel being on standby at home.

Arrangements should be made to minimize outside movements, for example, by changing temporarily to longer shift working, and/or placing people in accommodation on site.

The safety of employees families should be considered if they are affected by the employees continued presence at the plant.


#### **6.6.7 Flood**

The major threats in case of a flood are;

- Personal safety of individuals
- Damage to buildings and equipment
- Difficulties in free passage of individuals to/from work

In order to minimize the effect of these, security should be maximized and the station should be manned by the minimum key staff, with all other personnel and families leaving site.

Due to the low elevation of the site and the numerous culverts and basements, it would be necessary to shutdown and electrically isolate the plant. Spillage from oil and chemical storage areas and tanks should also be considered

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 23 OF 31</b>

Arrangements should be made to minimize outside movements, for example, by changing temporarily to longer shift working, and/or placing people in accommodation on site.

## **6.7 Actions in Emergencies**

### **6.71 General**

This procedure covers all situations where a coordinated emergency response is required. This may be a situation involving one or more of the following emergencies listed above summarised as:

- Security/Civil
- Fire/Explosion
- Medical
- Leakage/Spillage
- Natural Emergency

Plant evacuation maybe necessary without prior warning when such an event occurs.

UPS's policy is that on hearing the Plant Emergency Alarm, all personnel with the exception of the duty shift staff are to immediately evacuate the plant or residential areas within the Colony.

Personnel evacuating an area should use the nearest exit and report to the EMERGENCY ASSEMBLY POINT without delay or stopping to collect personal belongings.


No person should re-enter risk areas, return to the workplace or residential areas until the all clear or other instructions have been given by the Sr. Operation Manager / SCE or through nominated Wardens, as appropriate.

UPL / UCH-II shift staff will operate the plant as normal until the situation is assessed by the SCE and further instructions issued.

ADMIN FIRE WARDEN will, if the incident occurs in office hours, contact the AE (CCR Operator) for confirmation of the roll call on the CCR telephone 222 or 223 for UPL & 281 or 259 for UCH-II.

WORKSHOP & WAREHOUSE FIRE WARDEN will, if the incident occurs in office hours, contact the AE (CCR Operator) for confirmation of the roll call on the CCR telephone 222 or 223 for UPL & 281 or 259 for UCH-II.

COLONY FIRE WARDEN will, if the incident occurs in or outside of office hours, contact the AE (CCR Operator) for confirmation of the roll call on the CCR telephone 222 or 223 for UPL & 281 or 259 for UCH-II.

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 24 OF 31</b>

### 6.7.2 Actions on Discovering an Emergency Situation

Initiate the emergency alarm by operating the nearest break-glass unit, if appropriate, and / or

Contact the CCR by radio or from any internal phone by dialling 333 for UPL & 666 for UCH-II.

Give the AE (CCR Operator) the following information:

- Your name
- Location of emergency
- Type and extent of emergency
- Confirm if casualties are involved

### 6.7.2 Action on Discovering a Fire

Initiate the Fire alarm by operating the nearest break-glass unit, if appropriate, and / or

Contact the CCR by radio or from any internal phone by dialling 333 for UPL & 666 for UCH-II.

Give the AE (CCR Operator) the following information:

- Your name
- Location of Fire
- Type and extent of Fire
- Confirm if casualties are involved

Only attempt to fight the fire if it is small, it presents little risk and you are confident you can deal with it quickly by the correct use of the appropriate extinguisher or hose. Appendix A gives a description of the various portable fire extinguishers and their uses.

If you are unable to fight the fire safely, retreat to the closest EMERGENCY ASSEMBLY POINT.


### 6.7.3 Action on Discovering a Casualty

- Assist with basic First Aid, if trained, using 'DRABC'. Do not move the casualty unless to leave him would endanger his life i.e. fire or chemical hazard etc.
- Do not attempt to remove a casualty from an electrical hazard unless you are trained to do so or the power has been isolated.

### 6.7.4 Action by the SCE

The SCE shall go directly to the location of the incident to appraise the situation in order to make appropriate decisions.

The SCE shall direct and coordinate the emergency teams upon their arrival on the plant site giving as much assistance as possible.

 UCH POWER (PRIVATE) LIMITED UCH-II POWER (PRIVATE) LIMITED	DOCUMENT TITLE	DOC. NO.	EFFECTIVE DATE
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
PREPARED BY: J Finlay	APPROVED BY: PLANT MANAGER	REV NO. 3.1	PAGE 25 OF 31

To this end the SCE will invoke the appropriate procedure listed below, in consultation with the Sr. Operations Manager and Plant Manager.

- ER-PR-002 Bomb Threat Procedure
- ER-PR-003 Emergency Evacuation Plan
- ER-PR-004 Medical Emergency Evacuation Plan
- ER-PR-005 Actions in the Event of a Fire

#### 6.7.5 Action by the AE (CCR Operator)

On receipt of the 333 / 666 call, he will communicate the details of the emergency to the SCE and if advised, sound the appropriate plant Emergency Alarm:

**Hostile attack:** Alternating Alarm. Action: Stay indoors, until all clear continues long alarm sounds and then Muster at relevant muster point.

**All other events:** Continuous Alarm. Action: all personnel Gather at relevant Muster point

The AE (CCR Operator) shall remain in the CCR to direct the Emergency Teams to the location of the incident.

All communication shall be to the AE (CCR Operator) who shall communicate with the SCE at the site of the emergency. With the exception of the initial 333 / 666 call, all other calls should be made on the 222 or 223 for UPL & 281 or 259 for UCH-II extensions.

He will receive and make incoming and outgoing internal and external phone calls and two-way radio calls in the CCR.

He will keep record of all such calls for coordination purposes.

If the CCR is to be evacuated, the AE (CCR Operator) will contact NPCC and OGDCL if possible, prior to initiating the STATION EMERGENCY SHUTDOWN SEQUENCE and then report to the nearest EMERGENCY ASSEMBLY POINT.

#### 6.7.6 Action by the ADMIN FIRE WARDEN and/or COLONY FIRE WARDEN


The Fire Wardens should carry out a quick survey of the Administration building and/or the Colony areas in escort of a FIRE TEAM MEMBER.

He will make sure that the evacuation in the Administration and/or the Colony buildings is completed.

The Fire Wardens shall complete roll calls at the EMERGENCY ASSEMBLY POINT(S), and liaise with the SCE via the POWER 2 if necessary.

The Fire Wardens will call the POWER 2 and confirm that a roll call has been carried out and that all personnel on the plant site are accounted for at the EMERGENCY ASSEMBLY POINT(S).

#### 6.7.7 Action by the FIRE TEAM LEADER

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 26 OF 31</b>

The FIRE TEAM LEADER shall call 333 / 666 or via radio Channel 4 and collect all the available information from the AE (CCR Operator).

If the emergency requires the response of the Fire Team the FIRE TEAM LEADER will take appropriate action to extinguish the fire using all available fire fighting equipment, with help of his Fire Team as per his experience and fire fighting procedures.

If any person is missing he will make search parties and start searching.

During fire fighting operations he will liaise with the SCE via the POWER 2 if necessary.

If the emergency does not require the response of the Fire Team, the Fire Team will stand down at the nearest EMERGENCY ASSEMBLY POINT to await further instructions from the POWER 2.

#### **6.7.8 Action by the Medical Team Leader**

The Medical Team Leader shall call 333 for UPL & 666 for UCH-II and collect all the available information from the POWER 2.

Take appropriate action to assist any casualty(ies) using all the available medical equipment with the help of his medical team as per his experience and first aid procedures.

During first aid he will liaise with the SCE via the AE (CCR Operator) if necessary.

If the emergency does not require the response of the Medical Team, the Medical Team will stand down at the nearest EMERGENCY ASSEMBLY POINT to await further instructions from the POWER 2.

#### **6.7.9 Action by the SECURITY MANAGER**

The SECURITY MANAGER shall call 333 for UPL & 666 for UCH-II and collect all the available information from the AE (CCR Operator).

Take appropriate action to assist the situation using all the available equipment as per his experience, and security procedures.

During the emergency he will liaise with the SCE via the AE (CCR Operator) if necessary.


If the emergency does not require the response of the Security Team, the Security Team will stand down at the nearest EMERGENCY ASSEMBLY POINT to await further instructions from the POWER 2.

#### **6.7.10 Action by the SPILLAGE HANDLING TEAM LEADER**

The SPILLAGE HANDLING TEAM LEADER shall call 333 for UPL & 666 for UCH-II and collect all the available information from the AE (CCR Operator) Take appropriate action to contain the environmental situation using all the available equipment as per his experience and the Environmental Management System procedures.

During this he will liaise with the SCE via the AE (CCR Operator) if necessary.



 UCH POWER (PRIVATE) LIMITED UCH-II POWER (PRIVATE) LIMITED	DOCUMENT TITLE	DOC. NO.	EFFECTIVE DATE
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
PREPARED BY: J Finlay	APPROVED BY: PLANT MANAGER	REV NO. 3.1	PAGE 27 OF 31

If the emergency does not require the response of the Environmental Response Team, then they will stand down at the nearest EMERGENCY ASSEMBLY POINT to await further instructions from the AE (CCR Operator)

#### 6.7.11 Action by all employees, contractors and contractors

All personnel including UPL employees, Contractors and visitors to follow following actions when hearing following Siren Alarms.

### Alternating Sound Alarm Hostile attack:

**Action:** Stay indoors and keep yourself safe until all clear continues long alarm sounds and then gather at relevant muster point.

### Continuous Sound Alarm All other events:

**Action:** all personnel Gather at relevant Muster point

#### 6.8 BACK UP EMERGENCY ASSEMBLY POINT


In the event that the EMERGENCY ASSEMBLY POINT in front of the Administration building is unsafe to use then a back up EMERGENCY ASSEMBLY POINT in the CCR car park will be utilized. The decision to assemble at the backup EMERGENCY ASSEMBLY POINT will be taken by the SCE.

#### 6.9 TERMINATION OF EMERGENCY

As the emergency situation diminishes, consideration should be given to its termination. A major portion of the site may only be conditionally safe, due to the presence of waste materials and/or equipment/material damage. Decide whether to maintain standby facilities until final inspection and clean up.

The levels of clean up also require to be considered. If a large quantity of waste is involved it is preferable to have agreed this disposal previously, rather than face later dispute.

After the incident has terminated it is important to ensure that all the available information is collected as soon as possible. The facts require to be collected in

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	<b>DOCUMENT TITLE</b>	<b>DOC. NO.</b>	<b>EFFECTIVE DATE</b>
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 28 OF 31</b>

order to ascertain whether any significant lessons can be learned. An Emergency Evacuation report (see Appendix 2, should be completed to cover the evacuation. In the event of the wider emergency, further information should cover the events leading up to the emergency and the handling of the emergency at site. Any interviews need to be carried out immediately after the emergency, before recall is influenced by others and media reports. A factual summary should thus be prepared by the Plant manager or Acting plant manager.

#### **6.10 E.R.P. Review and Update.**


The Emergency Response Plan is to be reviewed and updated to correct deficiencies or omissions and to reflect changes in emergency response resources and capabilities, which will occur from time to time.

A review shall be carried out every six months or after the following circumstances or conditions if deemed to be required:

- After the occurrence of an emergency
- A drill or desktop exercise
- A change in operational procedures
- Major modification or addition of new equipment

Updates and amendments to the E.R.P can be performed after every review. All updates or amendments are to be approved by the Plant Manager.


All updates and amendments are to be recorded in the Amendment List of the E.R.P.

 UCH POWER (PRIVATE) LIMITED UCH-II POWER (PRIVATE) LIMITED	DOCUMENT TITLE	DOC. NO.	EFFECTIVE DATE
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
PREPARED BY: J Finlay	APPROVED BY: PLANT MANAGER	REV NO. 3.1	PAGE 29 OF 31

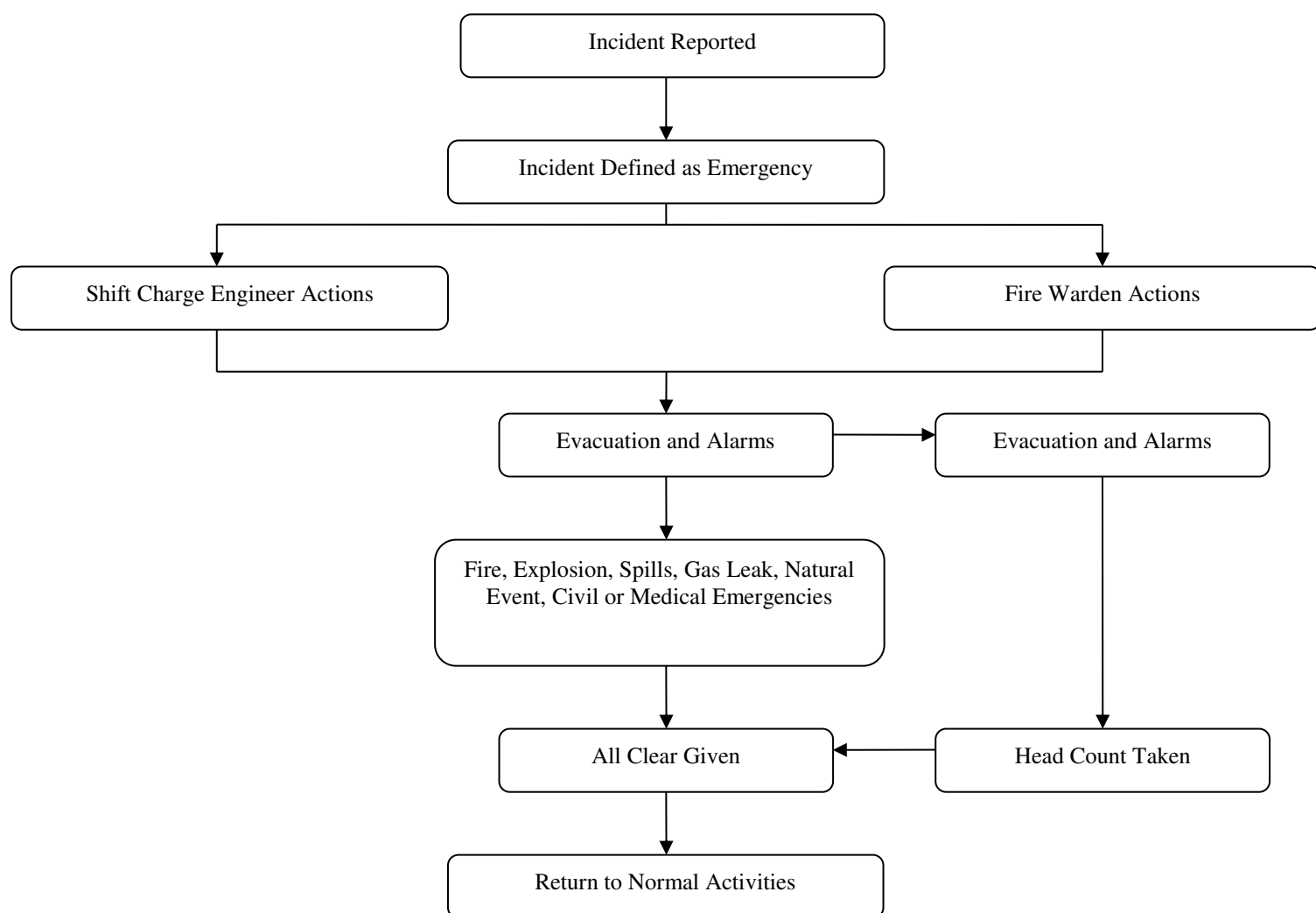
## 7 APPENDIX


Appendix 1: Flow Chart for Emergencies

Appendix 2: Emergency Evacuation Report

 <b>UCH POWER (PRIVATE) LIMITED</b> <b>UCH-II POWER (PRIVATE) LIMITED</b>	DOCUMENT TITLE	DOC. NO.	EFFECTIVE DATE
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
<b>PREPARED BY:</b> J Finlay	<b>APPROVED BY:</b> PLANT MANAGER	<b>REV NO.</b> 3.1	<b>PAGE 30 OF 31</b>

## Appendix 1: Flow Chart for Emergencies



 UCH POWER (PRIVATE) LIMITED UCH-II POWER (PRIVATE) LIMITED	DOCUMENT TITLE	DOC. NO.	EFFECTIVE DATE
	EMERGENCY RESPONSE PLAN	ER-PR-001	01.06.2009
PREPARED BY: J Finlay	APPROVED BY: PLANT MANAGER	REV NO. 3.1	PAGE 31 OF 31

## Appendix 2:

See Document Template **ER-PR-001-001 Emergency Evacuation Report Template.dot**

Indicator Type	HSE Key Performance Indicators	Corporate Benchmark Yearly Basis	Year 2018	Year 2019	Year 2020
Lagging H&S Indicators	Average Number of Employees	-	58	57	54
	Number of Hours Worked by Employees	-	133,108	127,570	115,065
	Number of Hours Worked by Contractors	-	425,495	423,973	465,595
	Employee Occupational Fatality	0	0	0	0
	Contractor Occupational Fatality	0	0	0	0
	Third Party Fatality	0	0	0	0
	Employee Occupational Lost Time Accident	0	0	0	0
	Contractors Occupational Lost Time Accident	0	0	0	0
	Total Employee Days Lost due to Employee Occupational Lost Time Accidents	0	0	0	0
	Employee Fatality on the way to/from Work (Commuting)	0	0	0	0
	Employee Lost Time Accident on the way to/from Work	0	0	0	0
	Employee Occupational Diseases	0	0	0	0
	Employee Medically Treated Incident	1	0	0	0
	Third Party Medically Treated Incident	-	0	0	0
	Contractor Medically Treated Incident	1	1	0	0
	Employee First Aid Treatment	3	0	0	0
	Third Party First Aid Treatment	-	0	0	0
	Contractor First Aid Treatment	3	1	0	0
	Vehicle Accidents	-	0	0	0
	LTAFR	1.00	0.00	0.00	0.00

Indicator Type	HSE Key Performance Indicators	Corporate Benchmark Yearly Basis	Year 2018	Year 2019	Year 2020
Leading H&S Indicators	High Potential Serious Incidents or High Potential Near Misses/Near Hits	-	1	1	0
	Unsafe Act or Unsafe Conditions reported	-	1,014	940	1,026
	Near Miss & Unsafe Acts/ Conditions closed	-	994	917	1,018
	Near Miss & Unsafe Acts/ Conditions closeout Ratio	> 95%	98.0	97.6	99.2
	Number of Safety Walks	-	138	137	114
	Number of Toolbox Talks	-	1,533	1,507	2,277
	Number of Fresh Eyes Observations	-	206	157	175
	Point of Work Risk assessments performed	-	2,576	3,948	3,334
	Instinct / Safety Media Modules Successfully Completed	-	774	789	645
	Permits to Work issued	-	1,939	2,533	1,736
	Permits to Work issued in accordance with task risk assessment control measures	-	1,939	2,533	1,736
	Emergency Drills performed	1	0	1	0
	Health Promotion Programmes	-	0	0	0
	Health Monitoring or Surveillance Analysis	1	0	0	0
	Boundary monitoring performed	12	12	12	12
	Safety Audits performed	12	4	2	2
	Number of Significant Environmental Incidents	0	0	0	0





Tel: (051 711000)  
Fax: (051 711000)

No. 1677/KM/2021  
OFFICE OF THE DEPUTY COMMISSIONER  
NASEERABAD  
SAY NO TO CORRUPTION  
Dated D.M.J the 2<sup>nd</sup> May 2021

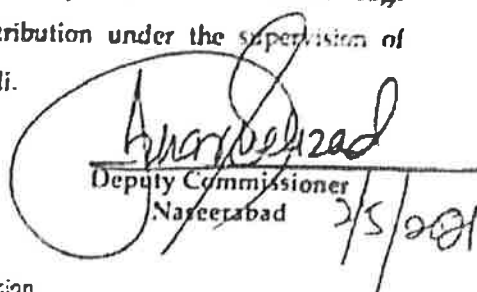
To

Mr. Tariq Jamali  
Administrative Officer  
Uch Power Limited Dera Murad Jamali.

Subject:- PROVISION OF 900 RATION BAGS

With reference to the telephonic conversation dated 2<sup>nd</sup> May, 2021 on the above noted subject.

2. Keeping in view, it is, therefore, requested that 900 ration bags may kindly be provided for further distribution under the supervision of Assistant Commissioner, Dera Murad Jamali.

  
Deputy Commissioner  
Naseerabad

Copy forwarded to:-

- 1.. The Commissioner Naseerabad Division
2. The senior Superintendent of Police Naseerabad. He is requested to please make necessary security arrangements



Tel No.0838-710603

No. 122-128  
OFFICE OF THE MEDICAL SUPERINTENDENT,  
DIVISIONAL HEADQUARTER HOSPITAL,  
DERA MURAD JAMALI.

Dated D.M.Jamali the 15th January, 2021.

To,

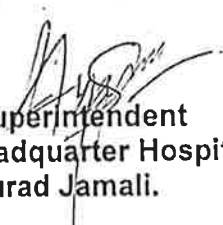
The Manager Administration & Public Relations,  
Uch Power Private Ltd;  
Dera Murad Jamali.

Subject: - PROVISION OF EMERGENCY DIFFICULT OTHER ITEMS

In continuation of already submitted letter No. Medicine/612/2 Dated DM Jamali the 20<sup>th</sup> March, 2020 to above subject.

It is stated that we have acute shortage of following items and it is very difficult to face the routine challenges, like current situation of Naseerabad. Therefore, for the smooth running of this hospital you are requested to please issue other items in emergency basis for Divisional Headquarter Hospital, Dera Murad Jamali;

S #	Name of items	Remarks
1	Dialysis machines	03 Nos. of Dialysis machines has installed by Govt: in ECC but due to shortage of consumable items owing to lack of budget we are facing difficulty in this connection.
2	Inj: AVS (Snake bite)	---
3	Inj: ARV (Dog bite)	---
4	PCR machine	The PCR machine has already installed in ECC through donated from Uch Power Pvt Ltd but due to shortage of consumable items we are facing hurdles in functioning of routine activities.

  
Medical Superintendent  
Divisional Headquarter Hospital,  
Dera Murad Jamali.

Copy to: -

1. The Secretary to Govt. of Balochistan Health Department Quetta.
2. The Director General Health Services Balochistan Quetta.
3. The Commissioner Nasirabad Division at Dera Murad Jamali.
4. The Divisional Director (Health) Nasirabad at Dera Murad Jamali.
5. The Deputy Commissioner Nasirabad at Dera Murad Jamali.
6. The District Health Officer, Naseerabad at Dera Murad Jamali.

  
Medical Superintendent  
Divisional Headquarter Hospital,  
Dera Murad Jamali.



0838710913

No. DSW/ND/(Dev:)/2021-22 /227- 3/  
Office of the  
**Director,**  
Social Welfare Naseerabad Division.

**SAY NO TO CORRUPTION.**

Dera Murad Jamali the <sup>January</sup> ~~December~~ 08, 2021.

To

✓  
The Deputy Commissioner,  
Naseerabad District (Dera Murad Jamali).


Subject: **INSTALLATION OF SOLAR PANEL IN SW PUBLIC LIBRARY.**

Kindly refer to the subject cited above and to say that the Social Welfare Public Library is a very important component to promote literary environment / providing calm atmosphere to students and people interested in reading. To further improve this environment, it is necessary to get rid of power shortage as the prolonged load shedding causes lack of light and heat in both winter and summer season. And the only solution is to convert the whole building to solar panels to manage the following load:

S.No	Load	Quantity
01	Ceiling Fan	10
02	LED Lights	30
03	Water Dispenser	02
04	Computers	10
05	Printer	01

It is therefore, requested that necessary action for arrangement of funds for installation of solar panel in Social Welfare Public Library may very kindly be taken in best interest of public services.

Submitted for appropriate action please

  
(Mohammad Saleem Khosa)  
Director,

Copy to: -

01. The Secretary to Government of Balochistan Social Welfare, Special / non formal Education and Human Right Department, Quetta.
02. The Commissioner, Naseerabad Division at Dera Murad Jamali.
03. The Director General, Social Welfare & Special Education, Balochistan, Quetta.
04. The Deputy Director, Social Welfare & Human Rights Naseerabad District.



0838710661

No. 79-81 /GB  
Office of the  
**Deputy Commissioner,**  
Naseerabad District.

**SAY NO TO CORRUPTION.**

Dera Murad Jamali the January 11, 2021.


To

✓ The Manager,  
Admin & Public Relation,  
UCH Power (Pvt :) Limited Dera Murad Jamali.

Subject: **INSTALLATION OF SOLAR PANEL IN SW PUBLIC LIBRARY.**

The Director, Social Welfare Naseerabad Division Vide latter No .1227-31 dated 08-01-2021. has informed that the Public Library is a very important component to promote literary environment / providing calm atmosphere to students and people interested in reading. And your role in this important work has been commendable. Currently the prolonged load shedding causing lack of light and heat in both winter and summer season ant to get rid of such situation, the only solution is to convert the whole building to solar panels.

It is therefore, requested that necessary action for arrangement for installation of solar panel in Social Welfare Public Library may be taken in public interest.

  
(Deputy Commissioner)  
Naseerabad District.

**Copy for information to: -**

01. The Commissioner, Naseerabad Division at Dera Murad Jamali.
02. The Director, Social Welfare & Human Rights Naseerabad Division with reference to their letter referred to above.



0838710913

No. DSW/ND/(Dev:)/2021-22 1235-40  
Office of the  
**Director,**  
Social Welfare Naseerabad Division.

**SAY NO TO CORRUPTION.**

Dera Murad Jamali the January 13, 2021.

To

✓  
The Manager,  
Admin & Public Relation,  
UCH Power (Ltd :) Dera Murad Jamali.

Subject: **INSTALLATION OF SOLAR PANEL IN SW PUBLIC LIBRARY.**

In continuation of this office letter of even no dated 08-01-2021 and a letter no. 79-81/GB dated 11-01-2021 from the Deputy Commissioner, Naseerabad District addressed to your good self and copy endorsed to the undersigned on the subject cited above.

The Social Welfare Department will bear all expenses related to maintenance of solar panel and change of batteries etc after its installation by the UCH power (ltd :) in Social Welfare Public Library Dera Murad Jamali.

It is further requested that arrangement of some books related to competitive examinations and other general study may also be made for readers.

Submitted for assurance please

(Mohammad Saleem Khosa)  
**Director,**

**Copy to: -**

01. The Secretary to Government of Balochistan Social Welfare, Special / non formal Education and Human Right Department, Quetta.
02. The Commissioner, Naseerabad Division at Dera Murad Jamali.
03. The Director General, Social Welfare & Special Education, Balochistan, Quetta.
04. The Deputy Commissioner, Naseerabad District.
05. The Deputy Director, Social Welfare & Human Rights Naseerabad District.



Tel: 0838-710661  
Fax: 0838-710040

No- 213/513  
OFFICE OF THE DEPUTY COMMISSIONER  
NASEERABAD  
SAY NO TO CORRUPTION  
Dated D.M.J the 14 January, 2021

To

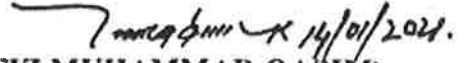
The Administrative Officer,  
Uch Power Limited, Dera Murad Jamali.

**Subject: - PROVISION OF SOLAR SYSTEM LIGHTS.**

Reference is made to the telephonic conversation with Mr. Tariq Jamali, Administrative Officer, Uch Power Limited, Dera Murad Jamali, District Naseerabad regarding subject matter.

It is submitted that District administration is facing acute shortage of street lighting system in the whole city of Dera Murad Jamali especially for DC office road Dera Murad Jamali which causes serious security and law & order issue for the administration and it also cause hurdles for the general public while shifting their patients to District Headquarters Hospital in any emergency.

Keeping in view the above stated situation, it is, therefore, requested that 60 numbers Solar system lights may kindly be provided on emergency basis to be installed on main DC office road. Municipal Committee, Dera Murad Jamali will look after the operation/maintenance of these light systems after their installation.

  
(HAFIZ MUHAMMAD QASIM)  
Deputy Commissioner,  
Naseerabad

**Copy forwarded to:-**

1. The Commissioner, Naseerabad Division at Dera Murad Jamali.
2. The Chief Municipal Officer, Municipal Committee, Dera Murad Jamali.



Tel No.0838-710803

No. 143-49,  
OFFICE OF THE MEDICAL SUPERINTENDENT  
DIVISIONAL HEADQUARTER HOSPITAL,  
DERA MURAD JAMALI.

Dated D.M.Jamali the 15th January, 2021.

To,


The Manager Administration & Public Relations,  
Uch Power Private Ltd;  
Dera Murad Jamali.

Subject: - PROVISION OF EMERGENCY SOLAR STREET LIGHTS

On the subject noted above, it is submitted that we need to establish a Solar street lights are very essentials for operational usage in Divisional Headquarter Hospital and Emergency Care Centre due to load shedding. As already requested, due to 06 hours load shedding routine activities suffered badly and patients suffered most.

However this office will look-after and maintenance as well as responsibility for routine maintenance, after installation of this energy unit.

Therefore, kindly donate/complete installation of solar street lights with necessary appliances/equipments as Uch Power usually donate such lot of facilities in near past and we are very hopeful in future as well.

  
Medical Superintendent  
Divisional Headquarter Hospital,  
Dera Murad Jamali.

Copy to: -

1. The Secretary to Govt. of Balochistan Health Department Quetta.
2. The Director General Health Services Balochistan Quetta.
3. The Commissioner Nasirabad Division at Dera Murad Jamali.
4. The Divisional Director (Health) Nasirabad at Dera Murad Jamali.
5. The Deputy Commissioner Nasirabad at Dera Murad Jamali.
6. The District Health Officer, Naseerabad at Dera Murad Jamali.

  
Medical Superintendent  
Divisional Headquarter Hospital,  
Dera Murad Jamali.



Ph: 0838-510700  
Fax: 0838-510703

No. 20-2016 /DC/GB  
Government of Balochistan  
Office of the

DEPUTY COMMISSIONER  
JAFFARABAD

Dated Dera Allah Yar, the 18 /January, 2021

Our faith corruption free Pakistan

To,

The Manager Administration & Public Relations  
Uch Power Pvt limited  
at Dera Murad Jamali

Subject: - PROVISION OF WATER FILTRATION PLANT AT DERA ALLAH YAR & USTA MUHAMMAD

Kindly refer to telephonic conversation regarding the provision of Water Filtration plant at Dera Allah Yar & Usta Muhammad.

It is stated that District Jaffarabad comprises of three Tehsils and two Municipal Committees Dera Allah Yar & Usta Muhammad having huge population i.e. more than two lac each and needs clean drinking water facilities as per following prominent places.

S#	Name of Tehsil	Installation point
1	Jhatpat	DHQ Hospital Dera Allah Yar
2	Usta Muhammad	Civil Hospital Usta Muhammad

It is requested that at least 2xWater filtration Plants may kindly be provided for Dera Allah Yar & Usta Muhammad. However, the maintenance and provision of Electricity will be the responsibility of both Head of institutions.

Deputy Commissioner  
Jaffarabad

Copy to the:

1. Secretary Government of Balochistan PHED Quetta
2. Commissioner Naseerabad Division
3. Additional Secretary (staff) to Chief Secretary Balochistan Quetta
4. Executive Engineer PHED Jaffarabad
5. Assistant Commissioner Jhatpat/Usta Muhammad
6. MS DHQ Hospital Dera Allah Yar
7. Incharge Civil Hospital Usta Muhammad



NO/VTC/DMJ/ 51 /

OFFICE OF THE PRINCIPAL  
VOCATIONAL TRAINING CENTRE

DERA MURAD JAMALI

SAY NO TO CORRUPTION

Dated 8-6-2021

To

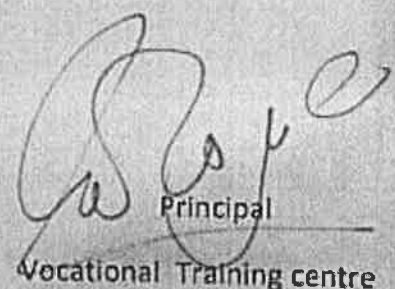
THE ADMIN MANAGER UCH POWER DERA MURAD JAMALI  
BALOCHISTAN

**SUBJECT ; Request For starting of evening classes.**

It is submitted that the vocational training centre Dera Murad Jamali is imparting vocational training for the youth of the area. The centre is giving one year certificates in 6 different trades, the each class strength is 30 trainees.

The detail of trade are as Mentioned:- Electric Trade, RAC Trade , Auto Trade ,Welding Trade, Machinist Trade, Plumber Trade.

It is therefore requested if your good office will help us with material tools and Scholarship for the students so we will start the evening classes in above 6 trades.



Principal  
Vocational Training centre

Dera Murad Jamali

## HSE TRAININGS DETAIL

## Appendix .N

Sr#	Date	Training Topic	Attendees		Sr#	Date	Training Topic	Attendees
01	2-Jan	Occupational Health & safety Policy	05		14	28-Feb	Health Awareness Session on Coronavirus outbreak	07
02	2-Jan	UPL Environment Policy Awareness Session	05		15	1-Mar	Group HSE Induction Session for Uch-II Outage workforce	98
03	2-Jan	UPL Quality policy Awareness Session	05		16	1-Mar	Importance of ENGIE Life saving Rules for Uch-II Outage workforce	98
04	3-Jan	Control of Smoking Policy Awareness Session	05		17	1-Mar	Health Awareness Session on Coronavirus outbreak for Uch-II Outage workforce	98
05	3-Jan	UPL Drug & Alcohol Policy Awareness session	05		18	2-Mar	Confined Space Attendent (SBM) training for Uch-II Outage workforce	05
06	3-Jan	UPL Good Catch / Near miss Reporting Procedure	05		19	7-Mar	First Aid Refresher, awareness on COVID-19 & Personal Hygiene	22
07	4-Jan	UPL Work At height Procedure Awareness session	05		20	8-Mar	Health Awareness Session on Coronavirus outbreak	08
08	4-Jan	Importance of ENGIE Life saving Rules	05		21	05-Jun	stress management – through MS TEAM	45
09	5-Jan	UPL Safety Signs & signal Procedure	05		22	13-Aug	stress management - through MS TEAM	40
10	5-Jan	Briefed HSE Induction Session	05		23	14-Oct	Confined Space Attendent (SBM) training for Contractor staff	07
11	22-Jan	Work At Height Safety	10		24	18-Oct	Importance of ENGIE Life saving Rules	12
12	4-Feb	Health Awareness Session on Coronavirus outbreak	15		25	18-Oct	Health Awareness Session on Coronavirus outbreak	12
13	4-Feb	Health Awareness Session on Coronavirus outbreak	58					



## HSE TRAININGS DETAIL

