1. **PURPOSE:** Safe work procedure for civil job for optimum performance
2. **SCOPE:** Plant area Battery 1 & Battery 2
3. **RESPONSIBILITY:** Engineer In charge and workmen on job
4. **PERFORMANCE INDICATORS:**

|  |  |  |  |  |  |
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| **Sr. No.** | **Measure** | **Unit** | **Frequency** | **Acceptance Criteria** | **Responsibility** |
| **Quality** | | | | | |
| 1 |  |  |  |  |  |
| **Environment** | | | | | |
| 1 |  |  |  |  |  |
| **Safety** | | | | | |
| 1 |  |  |  |  |  |

1. **PROCEDURE:**

**Aspect**: - Dust Generation, Scrap Generation.

**Impact**: - Air Pollution, Resource Depletion.

**Hazards Identified:-**

**Chemical**: Dust, Fire, Smoke

**Physical**: Noise, Vibration, Electric shock, Pressure

**Mechanical:** Impact, Contact, Entanglement, Ejection

**Human behaviours**: Improper housekeeping, Non-use of PPE, Alcoholism, Height phobia

Work permit should be taken from related dept. Like Electrical (Shutdown) & Production (Work Permit) after ensuring all the related safety as per indicated by the procedure and engineer at the site.

 **Excavation in the plant premises**

* + Ensure that no underground pipe line no power/telephone cables are crossing. (Clearance from elect. Dept. to be taken).
  + Barricade the working area before start of work.
  + Use Red light signal on the roads during excavation.
  + Ensure "WORK IN PROGRESS" Board is kept at work place.
  + No two people should carry out the excavation with pick-axe facing in opposite direction.
  + Ensure no tools should be loose from the support.
  + Proper strutting & shoring should be done in case of loose soil.
  + If any cable found during work ensure that no machinery is used for excavation, bring the same to attention of engineer in charge or electrical. Excavate that portion manually with care.
  + If Excavation is being done by JCB, back -hoe make sure that no person should be within the swing of the boom.
  + Once the job is completed, ensure that area is safe for use, remove all display boards, lights etc.
  + Return the work permit to the engineer in charge.

 **Concreting in the plant premises**

* + Barricade the working area before start of work.
  + Ensure that concrete mixer is having proper guards for moving parts.
  + For electrical operated mixer, ensure certification from electrical department periodically.
  + Proper steel scaffolding should be made during concreting if working above 6 feet height.
  + Ensure that wooden planks are laid above reinforcement while concreting over reinforcement to avoid slip hazard.
  + Do not wear loose garments.
  + Cement and other materials left over must be properly store in close covers on it to reduce dust generation.
  + All waste cement must be properly diluted with water before discharge to environment.

 **Plastering in the plant premises**

* + Barricade the working area before start of work.
  + Use proper MS scaffolding with H frames.
  + Use full body harness / safety belt if working above 6 ft height.
  + Proper lighting should be there if working in dark room/ night
  + No bamboo scaffolding should be used.
  + Use work in progress boards.

 **Breaking of concrete/hard rock with pneumatic breaker**

* + Breaker should be operated by skilled person only.
  + Ensure the hose used is without cut and are certified as tested
  + Clamping should be done properly to the hose before start of the work.
  + Pneumatic power tool should firmly secure to the hose to prevent accidental disconnection.
  + Compressor operator should inform starting and stopping operation to the breaker operator to avoid flying of hose if not connected to breaker.
  + While breaking breaker must ensure low dust generation by making breaking surface wet.
  + Hoses without joints are preferred. In case any joints, should be leak proof & should firmly secure to each other.

 **Cutting, bending and fixing of reinforcement**

o Barricade the working area before start of work

o If electric cutting machine is used than it has to certified by company electrical engineer.

o The blade of the Cutting machine should have proper guarding.

o Electric cutting machine should be operated by skilled person

o The person cutting must wear face guard and hand gloves

o Bending fixture should be firm and rigid

DO

* Always make area to be excavation wet to avoid development of dust.
* Scrap generated shall be disposed as per procedure SP 44 D and G.

DO NOT

Wear loose garments

1. **REFERENCES:**
2. **RECORDS:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Record No.** | **Record Title** | **Maintained by** | **Soft/Hard form** | **Retention Time** |
| 1. |  |  |  |  |  |
| 2. |  |  |  |  |  |
| 3. |  |  |  |  |  |
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| **Date** | **Manual Section Ref. & Para** | **Brief details of Revision** | **New Rev.** |
| 13-08-2022 | Header | Company logo & Document no. | 6 |
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| **Prepared By:**  Head Mechanical Maintenance, Battery 1- MCD | **Reviewed & Issued By:**  Management Representative | **Approved By:**  Head Mechanical Maintenance MCD |
| **Signature:** | **Signature:** | **Signature:** |
| **Review Date: 13.08.2022** | **Review Date: 13.08.2022** | **Review Date: 13.08.2022** |