

# STANDARD OPERATING PROCEDURE

Form No.: EHSMSM/446/4013

Form Rev. No.: 01

Effective date: 01.04.2009

|                   |                                                                     |                       |                   |                    |           |
|-------------------|---------------------------------------------------------------------|-----------------------|-------------------|--------------------|-----------|
| <b>SOP No.</b>    | <b>RMM/SOP/GEN/33</b>                                               | <b>Effective Date</b> | <b>01.11.2013</b> | <b>REVISION No</b> | <b>02</b> |
| <b>SOP DESC</b>   | <b>Evacuation of LD Sludge directly into Dumpers,from LD#3 Bay.</b> | <b>Section</b>        | <b>GENERAL</b>    |                    |           |
| <b>DEPARTMENT</b> | <b>Raw Material Management</b>                                      | <b>Page</b>           | <b>1 of 10</b>    |                    |           |

| <b>Step No.</b> | <b>Activity (WHAT)</b>      | <b>Associated Requirements/Hazards/Impacts</b>                                                                                                                                                                                                                                                                                                                                                   | <b>Responsibility (WHO)</b>                            | <b>Process / tools / PPEs (HOW)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Remarks / Reference</b>                                                                                                                                                                                                                                    |
|-----------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1               | Before starting of the Job. | <b>SAFETY:</b> <ul style="list-style-type: none"> <li>Unawareness about the hazard prevailing in that area.</li> <li>Injury due to starting other equipment.</li> <li>Injury due to starting of equipment, which is not in healthy condition.</li> <li>Injury due to unawareness about the job</li> <li>Unawareness about the safety standard</li> <li>Injury due to non-use of PPEs.</li> </ul> | Contractor supervisor/<br>Foreman/Shift<br>Sr.Incharge | <ul style="list-style-type: none"> <li>Brief about the hazards before starting of the job.</li> <li>Maintain an equipment allocation register.</li> <li>Operator must carry starting key along with him.</li> <li>Maintain a equipment status register</li> <li>Check the equipment as per checklist and operate only when it is in healthy condition.</li> <li>Only trained person should be deployed in the job.</li> <li>Check whether that person is trained or not by seeing training record.</li> <li>Must know the role of others in that area.</li> <li>Training of Road Transportation safety standard.</li> <li>Use PPEs.</li> </ul> | Awareness of following safety standard is required: -<br>Road: SS/GEN-12<br>Rail: SS/GEN-24<br>Loose Clothing: SS/GEN-2<br>EYE: SS/GEN-6, 7<br>HEAD: SS/GEN-7<br>Transportation: SS/GEN-29.<br>At all loading and unloading point supervisor must be present. |

| <b>PREPARED BY</b>                                                                                                  | <b>APPROVED BY</b>                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>Name and Desig.: Varun Kumar ,Asst Manager</b>                                                                   | <b>Name and Desig.: Prakash Singh,Chief RMM</b>                                                                        |
| Signature with Date:  28.10.2013 | Signature with Date :  30.10.2013 |

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| Step No. | Activity (WHAT)                                        | Associated Requirements/Hazards/Impacts | Responsibility (WHO)    | Process / tools / PPEs (HOW) | Remarks / Reference                                       |
|----------|--------------------------------------------------------|-----------------------------------------|-------------------------|------------------------------|-----------------------------------------------------------|
|          |                                                        |                                         |                         | •                            |                                                           |
|          |                                                        | ENVIRONMENT:                            |                         |                              |                                                           |
|          |                                                        | QUALITY:                                |                         |                              |                                                           |
| 2        | Take requirement from the concerned department or RMM. | SAFETY : Nil                            | Contractor's Supervisor |                              | In case of schedule removal no need of taking requirement |
|          |                                                        | ENVIRONMENT: Nil                        |                         |                              |                                                           |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Name and Desig.: Varun Kumar ,Asst Manager                                                                          | Name and Desig.: Prakash Singh,Chief RMM                                                                               |
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| Step No. | Activity (WHAT) | Associated Requirements/Hazards/Impacts | Responsibility (WHO) | Process / tools / PPEs (HOW)                                       | Remarks / Reference |
|----------|-----------------|-----------------------------------------|----------------------|--------------------------------------------------------------------|---------------------|
|          |                 | QUALITY: About the quantity and time.   |                      | By mobile or in person and note down with requestor name and time. |                     |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Name and Desig.: Varun Kumar ,Asst Manager                                                                          | Name and Desig.: Prakash Singh,Chief RMM                                                                               |
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| Step No. | Activity (WHAT)                                          | Associated Requirements/Hazards/Impacts                                                                                                                                                                                                                                  | Responsibility (WHO)                             | Process / tools / PPEs (HOW)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Remarks / Reference |
|----------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| 3        | Loading of LD sludge directly into the Dumpers from LD#3 | <b>SAFETY :</b> <ul style="list-style-type: none"> <li>• Injury to driver during loading.</li> <li>• Hit by other dumper.</li> <li>• Collision between other dumpers.</li> <li>• Slip and fall</li> <li>• Toppling of dumper due to loading on the rear side.</li> </ul> | Contractor supervisor / Driver / Operator/Helper | <ul style="list-style-type: none"> <li>• <u>Dumper driver should not come down from his cabin during loading.</u></li> <li>• <u>Dumper driver should be Alertness in cabin inside during loading.</u></li> <li>• Be away from the moving dumper.</li> <li>• Use reversing buzzer during reversing.</li> <li>• <u>Use Reversing camera in dumpers</u></li> <li>• Use three-piece mirror.</li> <li>• Dumper and loading equipment follow different route.</li> <li>• Loading only on rear axle will not be done</li> <li>• Use gumboot.</li> <li>• <u>During loading &amp; unloading activity there should not be any person stand around 4 meters premises.</u></li> </ul> |                     |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Name and Desig.: Varun Kumar ,Asst Manager                                                                          | Name and Desig.: Prakash Singh,Chief RMM                                                                               |
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| Step No. | Activity (WHAT) | Associated Requirements/Hazards/Impacts | Responsibility (WHO)                      | Process / tools / PPEs (HOW)                                                                                                                                                                                                                                                                                                                              | Remarks / Reference |
|----------|-----------------|-----------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
|          |                 | ENVIRONMENT:<br>Spillage                | Contractor supervisor / Driver / Operator | <ul style="list-style-type: none"> <li>Over loading above the height of the side panel is not allowed.</li> <li>Any gap in between the side and rear panel is properly sealed.</li> <li>Door of the dala is properly locked.</li> <li>Do not over load the dumper and shut the gate completely</li> </ul> <p><u>Load only on donga fitted dumper.</u></p> |                     |
|          |                 | QUALITY: Loading of wrong material.     | Contractor supervisor                     | Take instruction from concerned person.                                                                                                                                                                                                                                                                                                                   |                     |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
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| <b>Step No.</b> | <b>Activity (WHAT)</b> | <b>Associated Requirements/Hazards/Impacts</b>                                                                                                                                                                                                                                     | <b>Responsibility (WHO)</b>               | <b>Process / tools / PPEs (HOW)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Remarks / Reference</b> |
|-----------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 4               | Transporting           | <b>SAFETY :</b> <ul style="list-style-type: none"> <li>Collision with others on the road.</li> <li>Collision with wagon /Loco and Drop gate.</li> <li>Hit during reversing</li> <li>Spillage from vehicle</li> <li>Entangling or fouling of dala against the structure.</li> </ul> | Contractor supervisor / Driver / Operator | <ul style="list-style-type: none"> <li>Check vehicle as per checklist.</li> <li>Follow Transportation Safety standards.</li> <li>Follow Road Safety standards.</li> <li>Follow defensive driving</li> <li>Follow transportation Safety Standards.</li> <li>Helper less driving.</li> <li>Stop, look and Go at any level crossing.</li> <li>Follow Rail Safety Standard.</li> <li>During reverse, must ensure that reverse buzzer is ON.</li> <li>Use three-piece mirror.</li> <li>Ensure Dala is in proper condition.</li> <li>Ensure dala door is properly clamped /locked.</li> <li>Do not move vehicle in raised Dala or boom condition.</li> <li>Ensure hoisting device interlock system is not bypassed.</li> </ul> |                            |

| <b>PREPARED BY</b>                                                                                                                | <b>APPROVED BY</b>                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
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| Step No. | Activity (WHAT) | Associated Requirements/Hazards/Impacts                                                                                         | Responsibility (WHO)  | Process / tools / PPEs (HOW)                                                               | Remarks / Reference |
|----------|-----------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------|---------------------|
|          |                 | <p>ENVIRONMENT:</p> <ul style="list-style-type: none"> <li>Pollution due to smoke emission.</li> <li>Sound pollution</li> </ul> | Contractor supervisor | <ul style="list-style-type: none"> <li>Regular check up of vehicle as per norms</li> </ul> |                     |
|          |                 | QUALITY:                                                                                                                        |                       |                                                                                            |                     |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                            |
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| <b>Step No.</b> | <b>Activity (WHAT)</b>                  | <b>Associated Requirements/Hazards/Impacts</b>                                                                                                                                                                                                                                                                                                                                                 | <b>Responsibility (WHO)</b> | <b>Process / tools / PPEs (HOW)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Remarks / Reference</b>                                                                       |
|-----------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 5.              | Unloading at LD sludge processing yard. | <b>SAFETY:</b> <ul style="list-style-type: none"> <li>Collision with other moving equipment at processing yard.</li> <li>Hit by dumper during placement of dumper at unloading point..</li> <li>Damage to dumper.</li> <li>Hand injury during operation of dala door hook.</li> <li>Toppling of dumper during hoisting.</li> <li>Toppling of dumper during placement for unloading.</li> </ul> | Driver /supervisor          | <ul style="list-style-type: none"> <li>Follow assigned path.</li> <li>Do not stand on the backside of dumper.</li> <li>Maintain safe distance from the dumper.</li> <li>Place dumper at the marked place</li> <li>Have proper communication with helper.</li> <li>During reversing use reverse buzzer and use three-piece mirrors.</li> <li>Do not dump over the heap.</li> <li>Use proper tool for opening lock.</li> <li>Wear hand gloves.</li> <li>Start hoisting only after applying hand brake and ensure that dumper is in still condition.</li> <li>Mark the area of unloading.</li> <li>Do not unload in downward direction.</li> </ul> | RMM/SOP/GEN/01<br><br><b>USE of PPE is must when driver and operator is outside of the cabin</b> |

| <b>PREPARED BY</b>                                                                                                  | <b>APPROVED BY</b>                                                                                                     |
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| Step No. | Activity (WHAT) | Associated Requirements/Hazards/Impacts | Responsibility (WHO) | Process / tools / PPEs (HOW) | Remarks / Reference |
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|          |                 |                                         |                      | •                            |                     |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                            |
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| Step No. | Activity (WHAT)                                                                                       | Associated Requirements/Hazards/Impacts               | Responsibility (WHO)      | Process / tools / PPEs (HOW)                                                                                         | Remarks / Reference |
|----------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------|
|          |                                                                                                       | ENVIRONMENT: Dust pollution                           | Driver /supervisor/Helper | <ul style="list-style-type: none"> <li>Use dust mask.</li> </ul>                                                     |                     |
|          |                                                                                                       | QUALITY: mix up with other material.                  |                           | <ul style="list-style-type: none"> <li>Know from the processing yard supervisor about the unloading point</li> </ul> |                     |
| 6.       | Inform shift incharge about trip and tonnage. And submit challan to the recorder or foreman next day. | SAFETY :                                              | Contractor Supervisor     |                                                                                                                      |                     |
|          |                                                                                                       | ENVIRONMENT:                                          |                           |                                                                                                                      |                     |
|          |                                                                                                       | QUALITY: Challan should be duly signed and filled up. |                           | Challan form no.150/3520                                                                                             |                     |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                            |
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