

# STANDARD OPERATING PROCEDURE

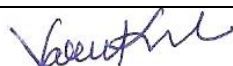
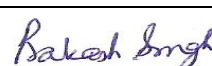
Form No.: EHSMSM/446/4013

Form Rev. No.: 01

Effective date: 01.04.2009

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| <b>SOP No.</b>    | <b>RMM/SOP/GEN/17</b>                      | <b>Effective Date</b> | <b>15.10.2013</b> | <b>REVISION No</b> | <b>03</b> |
| <b>SOP DESC</b>   | <b>Transporting of Sand to A-F,G,H Fce</b> | <b>Section</b>        | <b>GENERAL</b>    |                    |           |
| <b>DEPARTMENT</b> | <b>Raw Material Management</b>             | <b>Page</b>           | <b>1 of 6</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 the equipment of others.</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 no use of PPEs.</li> </ul> | Contractor supervisor/<br>Foreman/<br>Sr.Incharge(Sand Line) | <ul style="list-style-type: none"> <li>Brief about the hazards before starting of the job .</li> <li>Maintain a 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 check list 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>                                                                                    |
| <b>Signature with Date:</b>  <b>12.10.2013</b> | <b>Signature Wth Date :</b>  <b>13.10.2013</b> |

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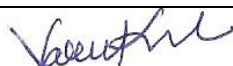
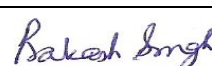
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| <b>DEPARTMENT</b> | <b>Raw Material Management</b>             | <b>Page</b>           | <b>2 of 6</b>     |                    |           |

| 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                                 |                         |                                                                                                                              | In case of schedule removal no need of taking requirement                  |
|          |                                                         | ENVIRONMENT: Nil                             |                         |                                                                                                                              |                                                                            |
|          |                                                         | QUALITY: About the quantity and time.        | Contractor's Supervisor | By mobile or in person and note down .                                                                                       |                                                                            |
| 3        | Take tare weight at Burmamines Weigh Bridge .           | SAFETY : Collision with other dumpers.       | Driver                  | Follow queue and maintain gap between the vehicles.                                                                          | In case of break down of Burmamines WB<br>Take at Stock yard weigh bridge. |
|          |                                                         | ENVIRONMENT:                                 |                         |                                                                                                                              |                                                                            |
|          |                                                         | QUALITY: Correct information in the challan. | Contractors Supervisor. | Challan must have 1) contractors name, WO number, Loading Department, Type of material, Unloading point, vehicle no and Date |                                                                            |
| 4        | Take written clearance from                             | SAFETY :                                     | Contractor supervisor   | <ul style="list-style-type: none"> <li>Carry gas detector and check % of</li> </ul>                                          |                                                                            |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Name and Desig.: Varun Kumar , Asst Manager                                                                         | Name and Desig.: Prakash Singh, Chief RMM                                                                             |
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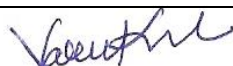
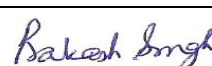
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| <b>SOP DESC</b>   | <b>Transporting of Sand to A-F,G,H Fce</b> | <b>Section</b>        | <b>GENERAL</b>    |                    |           |
| <b>DEPARTMENT</b> | <b>Raw Material Management</b>             | <b>Page</b>           | <b>3 of 6</b>     |                    |           |

| Step No. | Activity (WHAT)                                                                                                 | Associated Requirements/Hazards/Impacts                                                                                                                                                                                                                                      | Responsibility (WHO)                      | Process / tools / PPEs (HOW)                                                                                                                                                                                                                                                                                                                                                                                                                      | Remarks / Reference |
|----------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
|          | <ul style="list-style-type: none"> <li>A-F Control room</li> <li>G fce</li> <li>H Fce</li> <li>I Fce</li> </ul> | <ul style="list-style-type: none"> <li>Gas hazards.</li> <li>Burn injury.</li> </ul>                                                                                                                                                                                         |                                           | CO. <ul style="list-style-type: none"> <li>Wear cotton jacket and be alert.</li> </ul>                                                                                                                                                                                                                                                                                                                                                            |                     |
|          |                                                                                                                 | ENVIRONMENT: Dust                                                                                                                                                                                                                                                            | Contractor supervisor                     | Use Dust Mask                                                                                                                                                                                                                                                                                                                                                                                                                                     |                     |
|          |                                                                                                                 | QUALITY: Take clearance as per tata steel work permit system.                                                                                                                                                                                                                | Contractor supervisor                     | SS/GEN-25,Form No EHSMSM/WORKS/446/4007                                                                                                                                                                                                                                                                                                                                                                                                           |                     |
| 5        | Gross weighment at BM weighbridge                                                                               | SAFETY : Collision with other dumpers                                                                                                                                                                                                                                        | Driver                                    | Follow queue                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |
|          |                                                                                                                 | ENVIRONMENT:                                                                                                                                                                                                                                                                 |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                     |
|          |                                                                                                                 | QUALITY: Take Challan and WB memo                                                                                                                                                                                                                                            | Contractor's supervisor                   | Challan and WB memo should be duly filled-up and signed.                                                                                                                                                                                                                                                                                                                                                                                          |                     |
| 6        | Transporting                                                                                                    | SAFETY : <ul style="list-style-type: none"> <li>Collision with other s 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 fauling 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>Helperless 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> </ul> | 5                   |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
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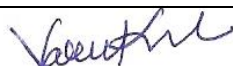
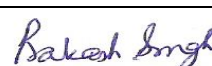
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| Step No. | Activity (WHAT)                                                                          | Associated Requirements/Hazards/Impacts                                                                                      | Responsibility (WHO)                    | Process / tools / PPEs (HOW)                                                                                                                                                                                                                                                                                   | Remarks / Reference                              |
|----------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
|          |                                                                                          |                                                                                                                              |                                         | <ul style="list-style-type: none"> <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> |                                                  |
|          |                                                                                          | ENVIRONMENT:<br><ul style="list-style-type: none"> <li>Pollution due to smoke emission.</li> </ul> Sound pollution           |                                         | <ul style="list-style-type: none"> <li>Regular check up of vehicle as per norms</li> </ul>                                                                                                                                                                                                                     |                                                  |
|          |                                                                                          | QUALITY:                                                                                                                     |                                         |                                                                                                                                                                                                                                                                                                                |                                                  |
| 7        | Barricading of working area in A-F only.<br><br>Placement of dumper in the working area. | SAFETY :<br><ul style="list-style-type: none"> <li>Gas hazards</li> <li>Hit by loco</li> </ul>                               | Contractor Supervisor/helpere           | <ul style="list-style-type: none"> <li>Monitor CO %</li> <li>Be alert and keep people on either side of the working area.</li> <li>Wear fluorescent jacket</li> <li>Place the dumper very slowly</li> </ul>                                                                                                    | In G,H Barricading is not required.              |
|          |                                                                                          | ENVIRONMENT:                                                                                                                 |                                         |                                                                                                                                                                                                                                                                                                                |                                                  |
|          |                                                                                          | QUALITY: Barricading should be visible.                                                                                      |                                         | Use Red Flag                                                                                                                                                                                                                                                                                                   |                                                  |
| 8        | Unloading of sand                                                                        | SAFETY :<br><ul style="list-style-type: none"> <li>Collision with Loco at A-F Furnace</li> <li>Toppling of dumper</li> </ul> | Contractor supervisor / Driver/Operator | <ul style="list-style-type: none"> <li>Barricading of area is required.</li> <li>Dumper to be immobilized before start of dala hoisting operation.</li> </ul>                                                                                                                                                  | RMH/SOP/GEN/01<br><b>USE of PPE is must when</b> |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                           |
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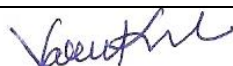
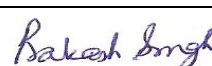
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| SOP DESC   | Transporting of Sand to A-F,G,H Fce | Section        | GENERAL    |             |    |
| DEPARTMENT | Raw Material Management             | Page           | 5 of 6     |             |    |

| Step No. | Activity (WHAT) | Associated Requirements/Hazards/Impacts                                                                                                                                                                                                                                                                                    | Responsibility (WHO) | Process / tools / PPEs (HOW)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Remarks / Reference                          |
|----------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
|          |                 | <ul style="list-style-type: none"> <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 equipment from height during unloading in the heap.</li> </ul> |                      | <ul style="list-style-type: none"> <li>Do not stand on the back side of dumper.</li> <li><b><u>During loading &amp; unloading activity there should not be any person stand around 4 meters premises.</u></b></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><b><u>Use Reversing camera in dumpers</u></b></li> <li>Do not dump over the heap.</li> <li>Use proper tool for opening lock.</li> <li><del>Data hook should be opened first left side with standing corner not back side of the dala and then right side dala hook should be opened by going towards driver;s cabin after opening signal to be given to the driver's for unloading materials</del></li> <li><del>Wear hand gloves.</del></li> </ul> | driver and operator is outside of the cabin. |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
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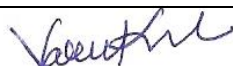
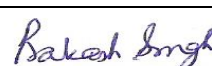
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| Step No. | Activity (WHAT)                                                                                           | Associated Requirements/Hazards/Impacts                                                                           | Responsibility (WHO)  | Process / tools / PPEs (HOW)                                                                                                                                                                                                     | Remarks / Reference |
|----------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
|          |                                                                                                           |                                                                                                                   |                       | <ul style="list-style-type: none"> <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> |                     |
|          |                                                                                                           | ENVIRONMENT:                                                                                                      | Operator              |                                                                                                                                                                                                                                  |                     |
|          |                                                                                                           | QUALITY: Unload at right point                                                                                    | Contractor supervisor | Know the exact location of unloading                                                                                                                                                                                             |                     |
| 9        | Return clearance                                                                                          | <b>SAFETY :</b> <ul style="list-style-type: none"> <li>Gas hazards.</li> <li>Burn injury.</li> <li>Nil</li> </ul> | Contractor supervisor | <ul style="list-style-type: none"> <li>Carry gas detector and check % of CO.</li> <li>Wear cotton jacket and be alert.</li> <li>NIL</li> </ul>                                                                                   |                     |
|          |                                                                                                           | ENVIRONMENT: Dust                                                                                                 |                       | Use Dust Mask                                                                                                                                                                                                                    |                     |
|          |                                                                                                           | QUALITY: Take clearance as per tata steel work permit system.                                                     |                       | SS/GEN-25,Form No EHSMSM/WORKS/446/4007                                                                                                                                                                                          |                     |
| 10       | Inform shift in charge about trip and tonnage.<br>And submit challan to the recorder or foreman next day. | <b>SAFETY :</b>                                                                                                   | Contractor Supervisor |                                                                                                                                                                                                                                  |                     |
|          |                                                                                                           | ENVIRONMENT:                                                                                                      |                       |                                                                                                                                                                                                                                  |                     |
|          |                                                                                                           | QUALITY: Challan should be duly signed and filled up.                                                             |                       | Challan form no.150/3526                                                                                                                                                                                                         |                     |

| PREPARED BY                                                                                                         | APPROVED BY                                                                                                           |
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