



Ref. :

Date :

SURVEY REPORT NO: ADM/JAM/INS\_01281

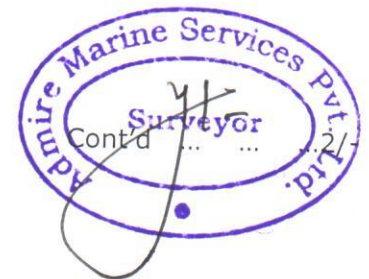
DATE: 17.10.2012

## LOSS PREVENTION SURVEY.

This is to certify that at the request of BHEL JHANSI vide their award of contract ref No. CDC/T/12-13 /09 /A. Dt 12/10/2012 to our JV partner Schenker India Pvt Ltd, we undersigned surveyor had carried out loss prevention / warranty survey for Transportation of 41 MVA Generator transformer for M/s. HPSEB –UHL –Stage 111 (Size – 5200mm (L)X 2450 mm (W) X 3600 mm (H) – 42 MT) from TASHIJONG (Taragat) alongside National Highway No. 20, about 28 KM from Baijnath in Himachal Pradesh to UHL Stage 111 Site (34 KM) on 11<sup>th</sup> October 2012.

We report:

**(A) Route Plan** - Taragat – Paprola- Binwakhad Bridge- Banander Road-Chitala – Mahankal Jn: - Bandiankhopa Jn: Kathal – Marh- Chanhara – Chowbeen- Bhohut –Pidamode- Kangada – (Mandi Dist) Kanchi mode-Banander-Sinu Darun- Bharol- Balahara- Chaloti- Panjalag- Khaddar –(Kangra Dist)-38 KM



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Continuation sheet No. 2



**Taragat to Banandar road 4 KM:** -- NH No. 20 ( Pathankot- Mandi )

This section is two line road and all bridges are classified 70R.

Modification recommended

1. Side filling on the right side of Bridge No . 127/1
2. Leveling the curve by sand bag in first curve the accident happened (03KM)



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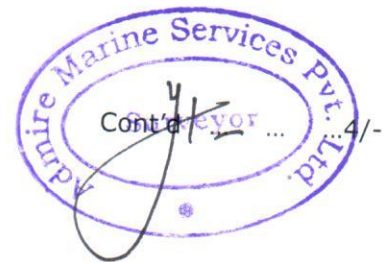
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Continuation sheet No. 3



## BANANDER ROAD – NH No. 20 TO CHOWBEEN – 10 KM.

This distance 10 KM is single line road . Road condition is good. All bridges are classified 40 R. This 40R is also referred to Class A - means a payload of 40 Tons can be moved safely on 40 R Bridges. Railway crossing at 5 KM. (Narrow Gauge 762mm). Required width in the rail crossing is available. At 11 KM turning near Kathal required side filling and compacting. All town in the route shall be crossed only between 6 AM to 8 AM or 2 PM to 5 PM.



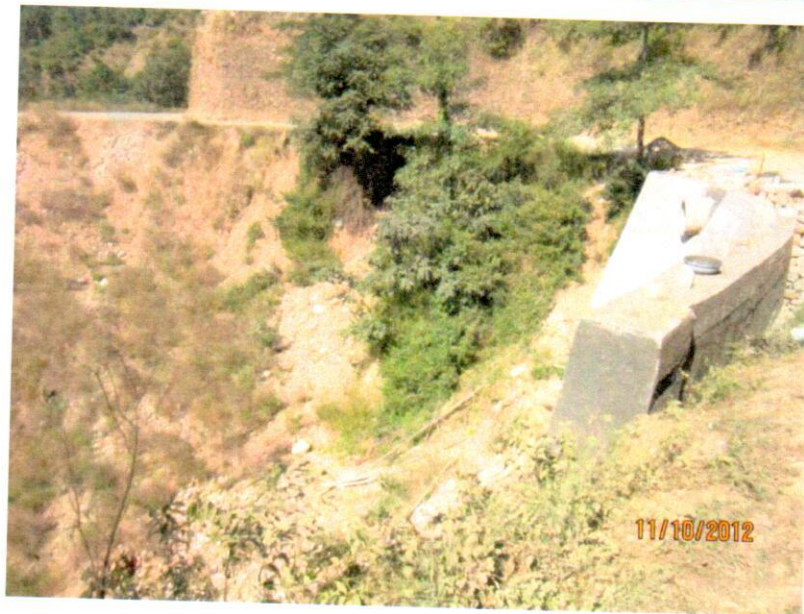
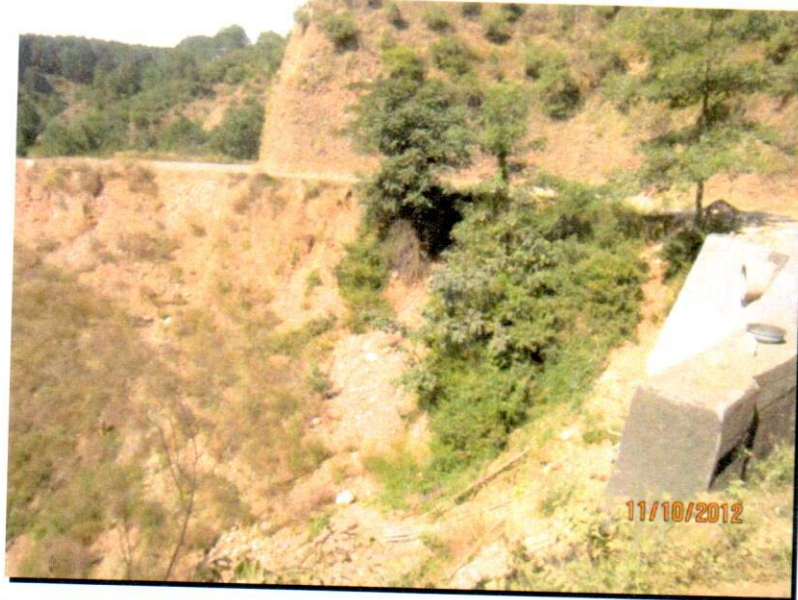
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Continuation sheet No. 4

## CHOWBEEN to SINU - 8 KM



This is location 1<sup>st</sup> transformer accident. Side wall construction in progress and turning radius available.



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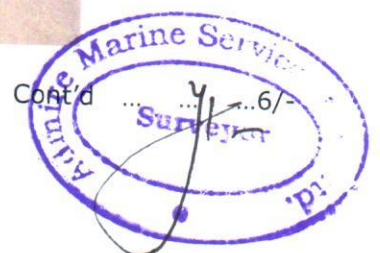
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Continuation sheet No. 5

## SINU to UHL SITE. 16 KM.

Bridges are Steel girder with classification 40 R, Culverts are single RCC Slab, Main location removal of earth required for width to pass the trailer. Needs 3 bend widening and increasing its outer radius.



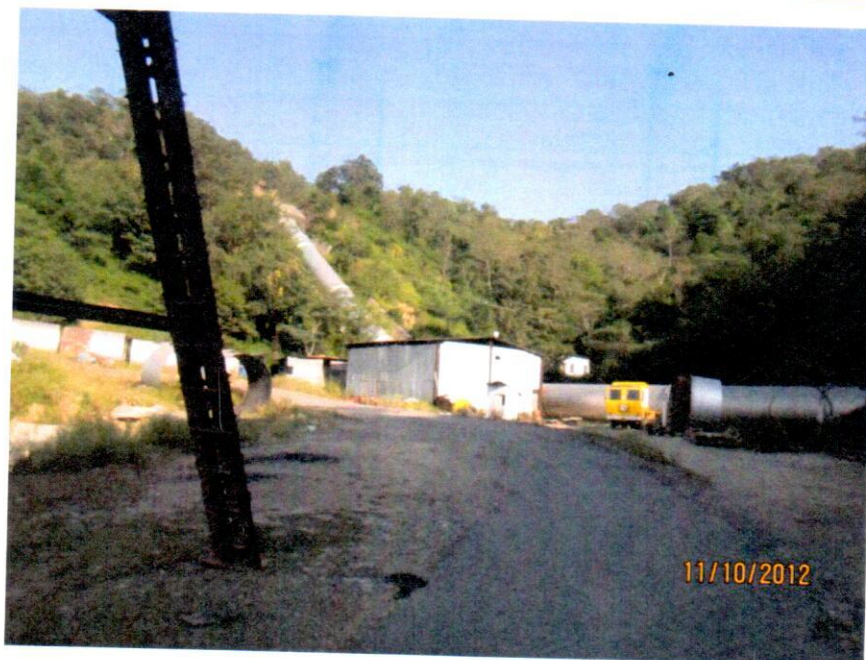
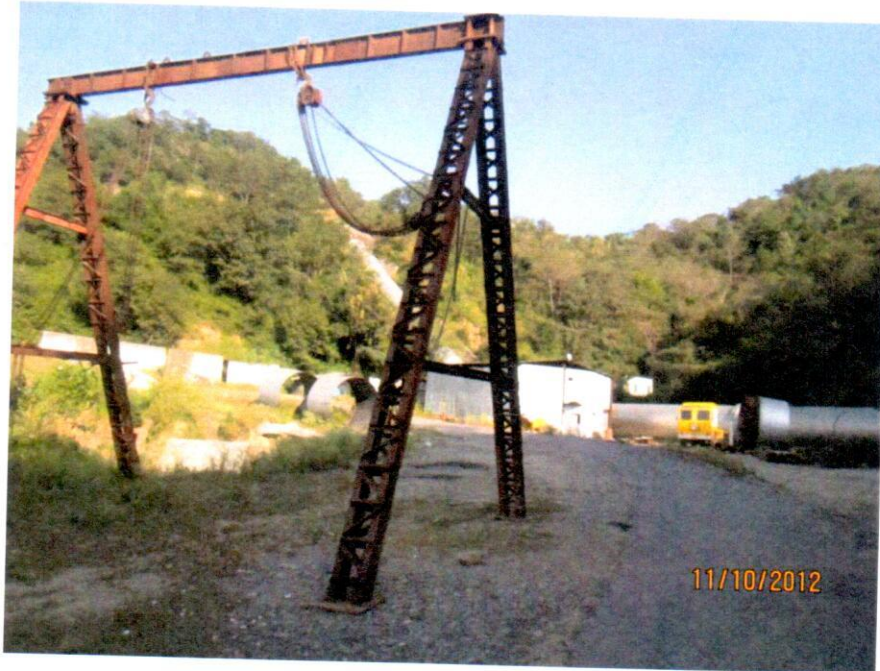
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Continuation sheet No. 6

## UHL SITE -



UHL site is along side of the road. Observed required road width for parking of trailer for unloading.



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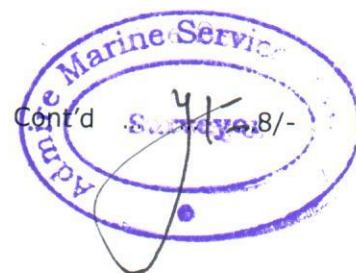
Continuation sheet No. 7

## (A) TRANSPORTION PLAN.

We recommend to use Low Bed trailer with 2 axles in the above route. Steel beams 4 nos/wooden blocks 40 Nos for securing the package.



In the view of road condition of last 20 KM we recommend escort of hydra crane of 50 MT capacities. All over head wires are to be lifted by pole and tree trimming in 4 locations. 4 Hard lashing will do with the body of trailer. All gaps should be filled by wooden blocks.



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Continuation sheet No. 8

## OUR OBERVATION about last two transportation to same site .

1. Improper selection of Trailer
2. Dunnage (Wooden Blocks) not utilized in effective manner.
3. Inadequate strength, balances or number of lashing, Hard Lashing.
4. Lack of appreciation of various forces involved especially
  - Force parallel to and across the chassis of trailer
  - Force normal to the chassis
  - Force in longitudinal direction.
5. Inadequate monitoring of the movement of the equipment along the route.
6. Gradient above 7 degrees in 4 location in route need extra precaution in driving.

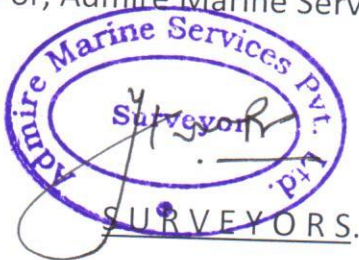
## OUR RECOMMENDATION

1. Trailer shall to move centrally on the bridge with speed less than 5 KM/Hr, Diver shall not apply breaks during passing through bridge structure, also not change gear. Any kind of impact must be avoided.
2. Gradients, Curves and turning, super elevation to check and trail run to be undertaken.
3. Town and thickly inhabited areas to be crossed between 6 am to 8 am or 2 PM to 4 Pm only.
4. Escort crane should arranged ( 50 MT)

This report reflects our findings at the date, Time and Place of Inspection /survey carried out

Issued without Prejudice

For, Admire Marine Services Pvt. Ltd.



Enclosed: ROUTE SURVEY.