

Report of the committee constituted to examine the diversion of the 2.81Ha of forest land in Mahabubnagar division in favour of M/s.HBL Power Systems Limited for the construction of testing facility

The Principal Secretary EFS&T, Govt. of Telangana through Memo No.1360/For.I (1)/2019, dated: 01.06.2024 constituted a committee with the following officials to visit the proposed site of forest land adjacent to the unit and provide certain remarks after inspection.

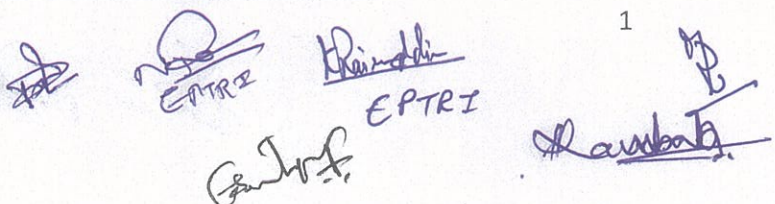
1. Additional Collector, Mahabubnagar
2. DFO, Mahabubnagar
3. Dr. D. Prasad, SES, TSPCB
4. Dr. N.Raveendhar, Tech consultant, EPTRI
5. Mr. Raisuddin, AQME, EPTRI
6. Sri. S.Rambabu, Scientist 'H'(outstanding), Nomination ARDE, DRDO
7. Dy. I.O., Mahabubnagar.

The scope of the work and remarks sought are as follows:

- Why forest land is indispensable for the testing field
- What are the details /nature of testing & impacts on forest ecosystem
- The firm is said to have purchased the 144 acres of land in the vicinity
- Precaution and other approvals required for the unit if agreed to be established in the forest area

The committee perused the following documents:

1. TGPCB CFO order dated 06.07.2024 which is valid up to 31.05.2029.
2. EIA Report for the proposed project
3. RoFR issued by the District Collector, Mahabubnagar compt. no.7738/2018 dated:10/09/2018
4. STEC Pamphlet No. 01 Quantity Distance Regulations For Military Explosives 2011 Issued by Storage & Transport of Explosives Committee Centre for Fire, Explosive & Environment Safety Brig S K Mazumdar Road, Delhi – 110054
5. The Tahsildhar, Moosapet Mandal Lr.No.B/2018, dated:26.07.2018 regarding submission of detailed report
6. The RDO, Mahabubnagar Lr.No.E/3755/2018, dated 10.08.2018 regarding submission of detailed report
7. The DFO, Mahabubnagar Rc.No.340/2017/S4, Dated 28.05.2018 sanction of RoFR Certificate to Collector & District Magistrate, Mahabubnagar
8. Forest Department, Govt. of Telangana Rc.No. 8620/2014/FCA2, dated 11-04-2018 regarding proposal of diversion of 2.81 Ha of Forest Land for construction of testing facility in Kolikonda RF, Gajulapet beat of Mahabubnagar Forest Division in favour of M/s.HBL Power Systems Ltd., Hyderabad.
9. The District Forest Officer, Mahabubnagar Rc.No.340/2017/S4, Dt. 01.05.2018 regarding proposal of diversion of 2.81 Ha of Forest Land for construction of testing facility in Kolikonda RF, Gajulapet beat of Mahabubnagar Forest Division in favour of M/s.HBL Power Systems Ltd., Hyderabad.
10. The Prl. Chief Conservator of Forests & (Head of Forest Force), Hyderabad Rc.No.8620/2017-FCA2, Dated 02.04.2019.
11. Proc No.A/849/2017, dated 20.05.2017 ROR Change of Patta issued by Tashsildhar, Moosapet,

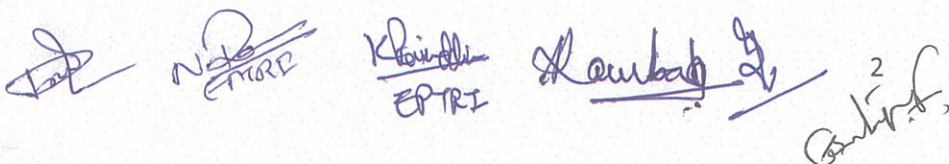

The bottom of the page contains several handwritten signatures in blue ink. From left to right, there are four distinct signatures. The second signature from the left has 'EPTRI' written below it. The third signature has 'Raisuddin' written above it and 'EPTRI' written below it. The fourth signature has 'Rambabu' written below it.

The committee team members consisting of Dr.D.Prasad, SES, TGPCB, Sanathnagar, Dr.N.Raveendhar, Consultant (Tech) EPTRI, Mr. Raisuddin, Air Quality Monitoring Expert, EPTRI and Mr. S. Satyanarayana, DFO, Mahabubnagar had a field visit to M/s HBL Power Systems Limited, Janampet (Village) Moosapet (Mandal), Mahabubnagar District along with Dy.GM of HBL Power System Limited on 03-08-2024. Sri S.Rambabu, scientist from DRDO joined virtually through Video call.

The observations based on the field visit, testing carried out and the documents examined and the inference drawn as per the scope are as follows:



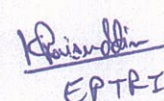
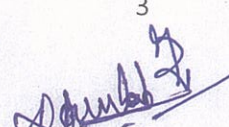
I. Observations:

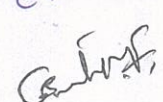
1. The project was established in Sy. No. 72 to 81 & 84 to 88, (NALA certificates issued by Revenue Department, Janampet Village, Moospeta Mandal, Mahabubnagar District, Telangana-509382. The total extent of the land is Ac. 144.
2. The plant is surrounded by Gajulapet Reserve Forest on North Side, Janampet-Laxampally Road on south side and Private Lands on East & West Sides. The National Highway is approximately 1.5 KM from the site. The nearest dwelling houses/habitation is Kanakapur Thanda towards Westside approx. 500 meters from the industry.
3. The company was issued with CFO of Telangana Pollution Control Board for assembly of electronic fuses – 50,000 Nos./month and assembly of grenades – 10,000 nos./month. The CFO is valid upto 31.05.2029.
4. It is understood from the representatives of the industry that,
 - a. All development activities require multiple levels of testing and iterations (static & amp; dynamic firing) at various stages of the projects to achieve/meet the desired performance criteria.
 - b. 40MM HEAP Grenades developed by M/s HBL has been qualified by MHA and production orders being placed.
 - c. To cater the requirements of MHA (User), HBL needs to establish the proof range/test facility at its manufacturing facility for LOT Acceptance Tests(LAT). The above testing is only for electronic fuses. The same is feasible, when a dedicated proof test facility is available at the manufacturing facility.
5. The no. of tests (LAT) that are to be conducted are 3 to 4 days per month. The no. of fuzes tested will be 32 per day and will take approx. 3 to 4 hours for testing.
6. The testing facility consists of the development of 3x3 mtr. concrete flooring, site should be protected by boundary wall, indication by siren before commencement of testing, and movement of fuzes through authorized persons and transport boxes.
7. To be a part of Atma Nirbhar Bharat and to complete the projects in a fast track manner, the developing agencies need to have their own proof range/test facilities at their Manufacturing / development centers.
8. **STEC criteria** requirements are as follows:
 - a. Storage area comprising mainly of explosives magazines and storehouses should be sited at a minimum distance of 275 mts from the process area & explosives testing area. The inter distance between the explosive buildings to be maintained considering the Traverse around the building.
 - b. The dwelling houses, places of assembly, hospitals, National Highways etc. should not be within 275 mts from any of the potential explosion site.


The block contains five handwritten signatures in blue ink. From left to right: 1. A signature with 'N.D.' written above it. 2. A signature with 'Raisuddin' written above it and 'EPTRI' written below it. 3. A signature with 'Rambabu' written above it. 4. A signature with a superscript '2' above it. 5. A signature with 'S. Satyanarayana' written above it.

- c. Burning ground for disposal of bulk explosive / Burning pit for disposal of small arms ammunition by burning, subject to a minimum separation of 275 mts.
 - d. To Public Traffic routes is 180 meters-NH-44 to Chakrapur & Laxmipally Road
 - e. To have 275mtrs safety distance
 - From one process area to storage and testing area.
 - Dwelling houses, places of assembly, Hospitals and National Highways
9. The recommendations of the DFO through letter Rc.No.340/2017/S4, dt: 22.01.2018 are as follows:
- The proposed area for diversion is 2.80 ha in which eucalyptus plantation was raised in the year 2013. The trees are enumerated and marked with serial number with red paint.
 - The total trees are 1371 numbers volume is 9.876 m³, besides eucalyptus trees there are some other varied miscellaneous species which are totally in number 312, volume are 2.905 m³.
 - SMC works like continuous contour trenches, mini percolation tanks have also been taken up in the said area. The continuous contour trenches, mini percolation tanks (4 nos.) in the year 2002 to 2003. The continuous contour trenches is about 254 m length and the volume is 367.283m³.
 - Gajulapeta RF is notified under Section 19 of the Hyderabad Forest Act as per the Champion and Seths Classification. This RF Falls under tropical dry deciduous Thorny Scrub Forest.
 - The forest type with a density of vegetation of 0.3
 - No unique species like flora and fauna of the subject area of the said RF.
 - No protection archaeology / Heritage / defence establishments and any monument located in and around the said area except eucalyptus plantation.
 - The impact of the HBL Power System and adjoining flora and fauna is insignificant.
 - The user agency has already identified an area of 7.45 acres of agricultural dry land situated in Sy.No.99/1, Janampet Village of Moosapet mandal in Mahabubnagar district of Telangana for compensatory afforestation area, which is suitable for raising a plantation and other forestry operations.
 - In view of the above reasons mentioned by the user agency are adjustable as it is the matter of National interest of defence and it is recommended with the by the FRO, Mahabubnagar with subject to the following conditions for diversion of forest land for testing facility of HBL Power Systems Limited.
 - RCC Pillars to be constructed to avoid further encroachment so as to stand firm within the allotted limit as per the specifications of the Forest Department at user agency cost.
 - The District Forest Officer, Mahabubnagar has also endorsed the same.
10. The Industry has purchased Non-Forest land of extent 2.83 Ha in Sy.No.99 in Janampet Village for Compensatory Afforestation (CA).
11. Form-II: Compt.No.7738/2018, dt: 10.09.2018 issued by the o/o the District Collector, Mahabubnagar regarding completion of Recognition of Forest Rights (RoFR).
12. PCCF Lr. Rc.No.8620/2017-FCA2, dt: 02.04.2019 addressing to the Spl. CS, EFS&T Dept., Govt. of Telangana communicating the details of the proposals, recommendations of the DFO, Conservator of Forests, information on the RoFR Act, information on CA lands with due recommendations in Part-IV for onward submission to Regional Officer, MoEF&CC, Chennai for according necessary approval for the project.
13. DFO, Mahabubnagar Lr.Rc.No.340/2017/S4, dt: 13.03.2024 addressed to Chief Conservator of Forests submitting that there is no alternate non-forest land

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available. The request of the user agency to an extent of 2.81 Ha. of forest area to be considered.

1. Why forest land is indispensable for the testing field?

M/s.HBL has requested an extent of 2.81 Ha. of forest area which is adjacent to their Ac 144 of land located in Sy.No.72 to 81 & 84-88 of Janampet (V), Moosapet (M), Mahabobnagar district, which is adjacent to RF Gajulapeta block. The latitudes and longitudes of the proposed forest land plotted on the google maps is as follows:

S.No.	Latitude	Longitude	
1.	16°38'23.50"N	77°57'41.98"E	
2.	16°38'23.78"N	77°57'42.26"E	
3.	16°38'26.38"N	77°57'40.72"E	
4.	16°38'28.28"N	77°57'41.15"E	
5.	16°38'30.30"N	77°57'43.20"E	
6.	16°38'31.38"N	77°57'45.40"E	
7.	16°38'33.50"N	77°57'43.81"E	
8.	16°38'30.66"N	77°57'38.41"E	
9.	16°38'25.33"N	77°57'37.69"E	
10.	16°38'25.94"N	77°57'39.17"E	
11.	16°38'25.58"N	77°57'40.00"E	

HBL has acquired 144 Ac of Land and constructed process buildings, storage magazines and other facilities as per below mentioned details

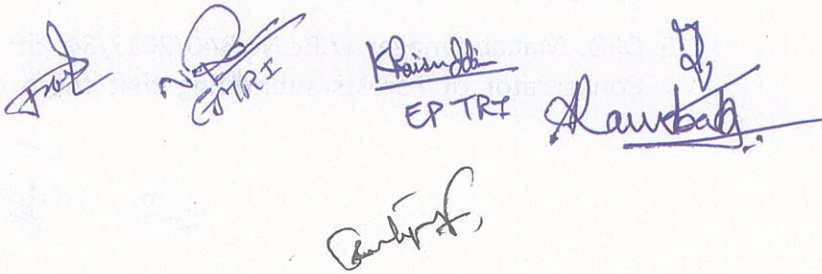
The following facilities/constructions are established as per the STEC guidelines.

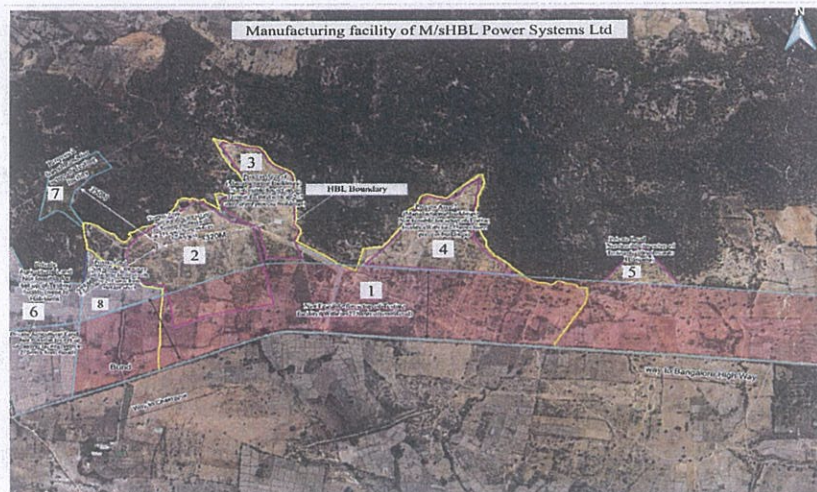
- a. Ammunition Assembly building
- b. Storage Magazine for electronic fuses and Grenades
- c. Storage Magazine for detonators
- d. Storage Magazine for explosives
- e. Utility buildings -2Nos.
- f. Change room buildings
- g. Security office

It may be observed that the utilized area is much less due to restriction on distance criteria as per the STEC guidelines wherein each test facility has to be constructed duly maintaining a safety distance of 275 mtrs., from other explosive storage, manufacturing facilities and habitants.

As per the information recorded in the DFO Lr dated: 13.03.2024, M/s.HBL Power Systems has verified 8 land parcels within the land acquired as well as other private lands for the project by the user agency and none of them are meeting the STEC guidelines.

The DGPS map of the HBL facility with the proposed site for diversion of the land as provided by M/s.HBL is as follows:





Following points to be noted from the map w.r.t. above safety distances guidelines:

S. No.	Area on the Map for proposed test facility	Feasibility of Test Facility	Remarks/Notes
1	Area-1	Not Feasible	Within 275Mtrs from the Road
2	Area-2	Not Feasible	Within 275Mtrs from the Storage Area
3	Area-3	Not Feasible	Within 275Mtrs from Manufacturing
4	Area-4	Not Feasible	Within 275Mtrs from Manufacturing
5	Area-5 (Adj. Private Lands)	Not Feasible	Near to Habitants
6	Area-6 (Adj. Private Lands)	Not Feasible	Near to Habitants
7	Area-7 (Proposed Forest Land)	Feasible	Meets all requirements
8	Area-8 (Adj. Private Lands)	Not Feasible	Within 275Mtrs from the Storage Area

To cater the requirements of MHA (User), HBL needs to establish the proof range/test facility at its manufacturing facility. The above testing is only feasible, when a dedicated proof test facility is available at the manufacturing facility. The forest area identified is at a distance of 370 mts., from the nearest magazine storage area and it is surrounded by hillocks in North West and North East directions.

Hence, as there is no alternate non-forest land available in the vicinity and being a National Project under Atma Nirbhar Bharat, the diversion of 2.80 Ha., of forest land adjacent to the M/s.HBL Janampet site, being a suitable location to accomplish the testing facility was recommended by the authorities.

2. What are the details / nature of testing & impacts on forest ecosystem

a) Details / nature of testing:

M/s.HBL intends to manufacture various types of Electronic Fuzes for Artillery Shells, Mortars, Rockets, Mines, Grenades and similar munitions of war. Electronic Fuze consists of an explosive train comprising of detonators with/without booster pellet based on the application.

1. The Proposed facility is intended for testing of firing train up to lead charge. The quantity of explosive used for testing is only in "milligrams (mg) level in each fuze" and Type of explosive used are Lead Azide, Lead Styphanate and HMX type.
2. It was informed that, as the quantity of Explosives in the Fuze is less than one gram.
3. The no. of tests that are to be conducted are 3 to 4 days per month. The no. of fuzes tested will be 32 per day and will take approx. 3 to 4 hours for testing.
4. The testing facility consists of the development of 3x3 mtr. concrete flooring, site should be protected by boundary wall, indication by siren before commencement of testing, and movement of fuzes through authorized persons and transport boxes.

b) Impacts on forest eco system:

EPTRI carried out a detailed study (Annex-1) on Ground Vibrations and Noise generated in testing of Electronic Fuzes. The gist is as follows:

i. Details of Electronic Fuzes tested:

Electronic Fuzes pertaining to the following applications have been evaluated for Ground Vibrations and Noise levels.

- 1) Electronic Fuzes for Artillery Gun Systems
- 2) Electronic Fuzes for Recoilless Gun (Shoulder Mounted Gun)
- 3) Electronic Fuzes for 40MM Grenades
- 4) Electronic Fuzes for Rocket Systems
- 5) Electronic Fuzes for Drone Drop/Air Drop Munitions
- 6) Electronic Fuzes for Naval Gun Systems
- 7) Electronic Fuzes for Hand Grenades.

ii. Experimental test carried out & results:

3 Nos. NOMIS Make Mini Super graphs (20602, 11875, 11876) and 2 Nos. Lutron Sound level meters (SLM 1, SLM 2) were used. The test firing was conducted on 2nd November 2024 in the Proposed Test Facility.

The limitation of the study is with regards to absence of concrete surface.

iii. Method of testing

Total 7 trials were carried out, with all the instruments kept in a straight line as below.

iv. Summary of results:

- a) **Noise:** The maximum noise level recorded during testing was 48.9 dB(A) at a distance of 110 meter (forest boundary to the testing source). When compared to the maximum ambient noise levels recorded in the forest, which fluctuate between 38.1 dB and 69.5 dB.
- b) **Vibrations:** All generated vibrations (only one Fuze out of seven Fuzes has generated 0.381mm/sec at 1.0 mtr. distance from source of blasting, as against the stipulated value of 5.0 mm/s) are well within the safe limits established for sensitive/historical structures, as outlined in the DGMS Technical Circular No. 7 of 1997 of Mines Act 1952. The intensity of these vibrations diminishes with distance, reaching negligible levels since the forest boundary is 110 mtrs. away from the source of test bench. Ground vibration limits in India are regulated by the Director General of Mines Safety, as outlined in Circular Number 7 of 1997.

EPTRI



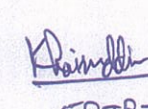
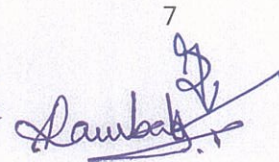
Further, as noted from the DFO, Mahabubnagar report and EIA, No unique species like flora and fauna of the subject area of the said RF and no protection archaeology / Heritage / defence establishments and any monument located in and around the said area except eucalyptus plantation. The impact of the M/s.HBL Power System and adjoining flora and fauna is insignificant.

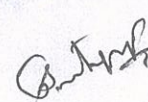
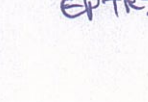
The noise and vibration test results as carried out by EPTRI indicate minimal or no impact due to the tests. Also, as noted from the Environmental Impact Assessment (EIA) prepared by M/s.Pridhv Envirotech (P) Limited, an accredited agency to study the environmental impacts along with Uttam Blastech (P) Limited to study the levels of ground vibrations and noise, the proposed test blasting indicate minimal or no affect.

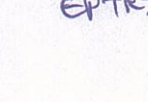
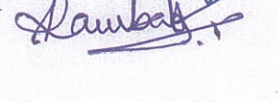
3. The firm is said to have purchased the 144 acres of land in the vicinity

The firm is established in 144 ac of land and the total area of the land as per the records are detailed below:

S.No.	Regd Sale Deed No.	Date	Sy. No.	Extent	
1	4183/2010	05-08-2010	88/a	2	15
2	4184/2010	05-08-2010	87/a	2	26
3	4185/2010	05-08-2010	88/a	2	15
4	6012/2010	27-10-2010	88	3	20
			87/a	2	26
			87/e	2	26
5	1539/2011	29-03-2011	79	0	11
			79	0	11
			78/aa	0	38
			78/a	2	31
			78/e	3	30
			78/aa	3	29
			79	16	14
			80	0	31
			81	3	25
			72	3	28
			73	7	31
			75	5	6
6	1946/2011	21-04-2011	85	2	0

S.No.	Regd Sale Deed No.	Date	Sy. No.	Extent	
7	2147/2011	29-04-2011	85	0	30
			86	1	29
8	2903/2011	10-06-2011	85	2	0
9	6586/2011	27-12-2011	85	0	31
			86	1	29
			85	2	0
10	6587/2011	27-12-2011	85	2	31
			86	1	29
11	6633/2011	29-12-2011	87	2	27
12	2360/2013	12-03-2013	85/a	4	9
			85	1	15
			86/aa	2	38
13	3300/2014	12-06-2014	86/a1	2	0
14	6417/2016	14-06-2016	85/u	0	31
			86/e/1	1	29
15	8196/2016	04-08-2016	75/e/2	2	24
			76/a/2	0	23
16	8197/2016	04-08-2016	75/e/1	2	23
			76/a/1	0	23
17	13124/2016	27-12-2016	86/2	2	0
18	13126/2016	31-12-2016	77/a/1	2	0
19	1962/2017	22.03.2017	74/ru	0	11
			74/u	0	11
20	1963/2017	22.03.2017	74/uu	0	11
21	1964/2017	22.03.2017	74/aa	0	11
22	9083/2017	16.10.2017	77/2	1	23
23	11112/2017	12-06-2017	76/A/A	0	26
24	11113/2017	12-06-2017	76/A/AA	0	25
25	11243/2017	12-06-2017	77/2	1	23
26	F/5614/2018	13-09-2021	72, 74, 77, 80, 81, 84 & 88	32	7
				144	22

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EPTRI

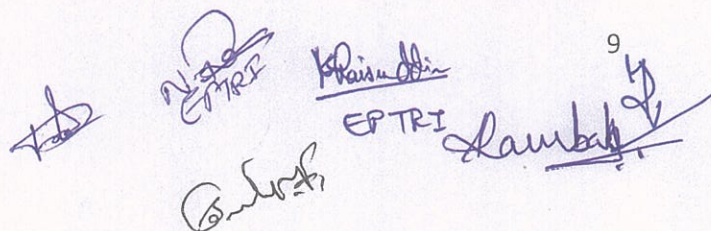
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The Industry has purchased Non-Forest land of extent 2.83 Ha in Sy.No.99 in Janampet Village for Compensatory Afforestation (CA).

4. Precaution and other approvals required for the unit if agreed to be established in the forest area

- ❖ RCC Pillars to be constructed to avoid further encroachment, so as to stand firm within the allotted limit as per the specifications of the Forest Department at user agency cost.
- ❖ A suitable boundary wall, 10 feet in height, should be constructed for the entire test site.
- ❖ Soil testing surrounding the test area for Lead and other chemicals used in test have to be carried out at least once in a year.
- ❖ Continuously monitor noise levels by installing realtime noise monitoring instrument, periodical air quality and vibrations around the test site, to ensure all metrics stay within safe limits and to alert staff to any abnormal activity.
- ❖ Only one Fuze should be fired at a time to reduce risk.
- ❖ Firing should be avoided on cloudy and rainy days, as weather conditions can impact safety and blast control.
- ❖ Firing should also be avoided during early morning and evening hours when birds are actively seeking water and food, to minimize impact on wildlife.
- ❖ Ensure all personnel handling explosives wear appropriate PPE, including blast helmets, ear protection, gloves, and flame-resistant clothing to minimize injury.
- ❖ Restrict access to the test site, allowing only authorized personnel, and mark restricted areas to prevent unauthorized entry.
- ❖ Establish a clear communication protocol, using radios or a public address system, to coordinate the team and maintain awareness of the test schedule and potential hazards.
- ❖ Develop and maintain an emergency response plan, including first aid kits and firefighting equipment, with trained personnel available to respond to accidents.
- ❖ Install a continuous noise monitoring system to ensure the compliance of the standards.
- ❖ Install visual and audible warning systems, such as sirens or flashing lights, to alert surrounding areas before any detonation, and inform nearby residents or workers in adjacent areas of scheduled tests.
- ❖ Train all personnel involved in testing on explosive safety procedures, emergency protocols, and hazard identification to improve response and minimize risk.
- ❖ Conduct regular inspections and maintenance of all equipment, storage facilities, and the testing area to ensure compliance with safety standards and identify any potential hazards.

The bottom right of the page contains several handwritten signatures and stamps. There are three distinct signatures in blue ink. One stamp reads 'EPTRI' in blue capital letters. Another stamp, partially obscured, appears to read 'K. R. Srinivasan'. A small number '9' is written in the top right corner of this section.

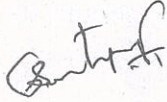
The remarks for the four points are submitted as per the records made available and the site visit.

Committee members:

1. Additional Collector, Mahabubnagar



2. DFO, Mahabubnagar

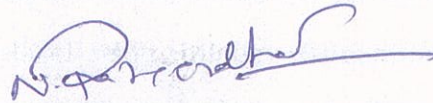


Additional Collector
Mahabubnagar

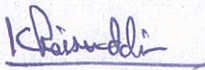
3. Dr. D. Prasad, SES, TSPCB



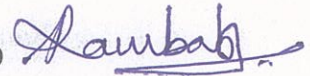
4. Dr. N.Raveendhar, Tech consultant, EPTRI



5. Mr. Raisuddin, AQME, EPTRI



6. Sri. S.Rambabu, Scientist 'H'(outstanding), Nomination ARDE, DRDO





Forest land measuring directions, GPS recording



Site photos near MF building



Demo of Fuse and MMG testing by HBL staff



After testing of Fuse and MMG showing remaining parts by HBL staff

*** END ***

Site inspection photos:

 <p>Latitude: 16.631683 Longitude: 77.973687 Accuracy: 1400.0 m Time: 03-08-2024 12:13</p> <p>Powered by NoteCam</p>	 <p>Latitude: 16.632258 Longitude: 77.989746 Accuracy: 2900.0 m Time: 03-08-2024 12:16</p> <p>Powered by NoteCam</p>
HBL power systems company discuss with committee members	During field visit Display of products Fuzes, MMG by HBL power systems
 <p>03.08.2024 12:51:51 16°38'26"N 77°57'41"E Gajulapet Telangana Altitude:365.4m Speed:0.7km/h</p>	 <p>03.08.2024 12:51:44 16°38'26"N 77°57'41"E Gajulapet Telangana Altitude:365.0m Speed:0.2km/h</p>
Proposed forest land	Proposed forest land
	
Rooms for product preparation	Visit to MF Building