GLOBAL TENDER ENQUIRY NO. 201900114/A4, DT. 27-05-2019 FOR PROCUREMENT OF FUZE ISD (FILLED) FOR 30 MM GRENADE VOG-17 FOR AGS-17, QTY. 30,374 NOS.

FOR: THE EXISTING TECHNICAL DOCUMENTS UPLOADED ALONG WITH THE TENDER ENQUIRY (DRAWING, SPECIFICATION AND ACCEPTANCE TEST PROCEDURE OF FUZE ISD (FILLED))

READ: PROCUREMENT OF FUZE ISD (FILLED) FOR 30 MM GRENADE VOG-17 AGS-17 AS PER BASIC TECHNICAL DETAILS (ENCLOSED AS ANNEXURE – A) AND CHECK PROOF PROGRAM (ENCLOSED AS ANNEXURE-B).

(filled)

A) BASIC TECHNICAL DETAILS OF ISD FUZE FOR 30 MM HE GRENADE VOG-17 AGS-17

1. Name of Fuze	-	Fuze ISD for 30mm HE GrenadeVOG17 AGS 17
2. Type of Fuze	-	Direct Action Instantaneous & Self Destruction after 27 sec.
3. Crew/Muzzle Safety	-	10 to 60 m
4. Functioning on Impact	-	At & more than 60 m
5. Pyro shutter release delay	-	100 to 300 milliseconds
6. Self Destruction	-	After 27 Seconds (In case fuze fails to function on impact)
7. Wt.of Fuze	-	50 gm.
8. Fuze threads	-	M 28 x 1
9. Fuze Length	-	Total 51 mm
	-	Above Grenade - 27.5 mm
10. Time of Flight up to 1700 m	-	22.5 Seconds.
11. Fuze Reliability	-	Above 98 % in Impact mode.
12. Lot size of fuze	-	2000 Nos.

B) BASIC TECHNICAL DETAILS OF 30 MM HE GRENADE VOG-17 AGS-17

1. Type of explosive filled in Grenade	- RDX / WAX Composition
2. Wt. of explosive filled in Grenade	- 33.25 gms.
3. Muzzle Velocity	- 185 m / s
4. Range of Ammunition	- 1700 m.

CHECK PROOF PROGRAMM FOR 30MM GRENADE

Appendix 'A'

PROOF ESTT SOAE(A) & LPR KHAMARIA

SL No	Test	Sample Qty	Methods of testing	Acceptance criteria	Remarks
1	a) Safety & functioning i) At -50°C (4 hrs) .. 18 ii) At +50°C (4 hrs) 18		Elevation angle 08° 21'	Following is not acceptable i) Weapon stoppage which could be attributed to ammn. ii) Premature burst in the barrel and burst in the trajectory with time less than 5 sec for each group fired. iii) Separation of cartg case from grenade body. iv) Grenade body and grenade parts getting destroyed during firing. v) In case of one failure due to the percussion primer the test should be repeated in TRIPPLE QTY. At this time no failure is allowed (MISFIRE) vi) Defects of cartg case and percussion primer not allowed by drgs/standards. vii) All rounds should burst in the field firing. Burst of the grenade have been obtained when they hit the ground at first or second hit. One function of the fuze from SD mechanism allowed. In the event of two failures the lot is subjected to re-proof in the same qty and at this no failures are allowed.	
2	REALIABILITY TEST (Upper limit of Arming) i) At Amb 10		i) Rds fired on 0.5 mm thick, card board GOST – 2824-86 target at 60m. ii) Beyond the card board at distance 2-3m is placed a plywood shield /fixture of thickness 5 - 10mm.	i) Round should function on hitting card board sheet placed at 60m ii) Not more than one burst allowed on plywood shield. iii) If two bursts are obtained in the plywood shield the lot is subjected to test in qty 10 pcs from the group failed to function on the board and at this not more than one burst allowed in the plywood shield.	

Sl. No	Test	Sample Qty	Methods of testing	Acceptance criteria	Remarks
3	(Lower limit of Arming) i) At Amb	10	Performed by shooting from grenade launcher using live grenade towards plywood shield thickness 3-5 mm placed at 10 mm from muzzle.	No burst takes place upon hitting the target No. RE-PROOF PERMITTED	
4	MUZZLE VELOCITY AT + 15°C	10	This test is to be done with Ballistic barrel on a fixed mount (distance between ballistic barrel mount and solenoid) I-I-3m and distance between solenoid I and solenoid II-2-4m)		Till Ballistic barrel and method as desired is established it could be done with available method as hitherto done for information.
5	PRESSURE (P avg. & P max)	10	This test is to done with Ballistic barrel.		This test may be undertaken subject to availability of Ballistic barrel and suitable pressure recording method.
6	BURST DISTRIBUTION	10	Test is performed by field firing at convenient for observation distance in the range of 1100-1700m by single firing. (No rain or snow / wind with constant direction but not more than 5m/s)	The result is considered satisfactory if the hypothetical lateral deviation Bc and the hypothetical distance deviation Bb do not exceed the values corresponding to the average firing distance as per the firing table.	The test may be undertaken subject to availability of Ballistic barrel on rigid mount and availability of suitable range.
7	RANGE (max) at Amb –tem	5		Individual Range of each Rd & mean of send of 5 (as per range table) time of flight & SD timing may recorded.	A copy of range table is attached.

TABLE OF BASIC RANGES

APPENDIX 'B'

Range	Sight	Trajectory Weight	Corrections for Line: Due to deviation	Line: Due to flk wind 35 km	Range: Due to head on/off wind 35 km	Range: Due to change of: Air press by 10 mm	Range: Due to change of: Air temp by 10°C	Range: Due to change of: Muzzle velocity	Range: Due to change of: Charge temp by 10°C	Change of rg due to change of angle of elevation by	Short Bracket	Angle of Elevation	Angle of Fall	Final velocity	Time of flt	Mean Deviation: In range	Mean Deviation: In height	Mean Deviation: Deflection	Range
M	Mils	M	Mils	Mils	M	M	M	M	M	M	Mils	Deg/Min	Deg	M/S	S	M	M	M	M
(a)	(b)	(c)	(d)	(e)	f	(g)	(h)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)	(u)
50	2	0·1	0	1	0	0	0	1	0	6·6	1	0 08	0·4	181	0.3	1·9	0	0	50
100	9	0·4	0	1	0	0	0	2	1	6·5	1	0 34	0·9	177	0·5	2·1	0	0	100
150	17	0·9	0	2	1	0	0	3	1	6·4	2	1 01	1·4	173	0·8	2·4	0·1	0	150
200	25	1·6	1	3	2	0	1	4	2	6·2	2	1 29	1·9	169	1·1	2·7	0·1	0·1	200
50	33	2·6	1	4	3	0	1	5	3	6·1	2	1 58	2·4	165	1·4	3·1	0·1	0,1	250
300	41	3·8	1	5	4	0	2	5	3	5·9	2	2 28	3·0	161	1·7	3·5	0·2	0·1	300
350	49	5·3	1	5	5	0	2	6	4	5·7	3	2 58	3·6	158	2·0	3·9	0·2	0·2	350
100	58	7·1	1	6	6	1	2	7	4	5·5	3	3 29	4·3	154	2·3	4·3	0·3	0·2	400
450	67	9·1	1	6	7	1	3	1	4	5·3	4	4 01	5·0	151	2·6	4·7	0·4	0·2	450
500	76	11	1	7	8	1	3	9	5	5·1	4	4 34	5·7	148	3·0	5·2	0·5	0·3	500
550	86	14	1	8	9	1	3	9	5	5·0	5	5 08	6·4	144	3·3	5·7	0·6	0·3	550
600	96	17	2	8	11	1	4	10	6	4·8	5	5 44	7·2	141	3·7	6·2	0·8	0·4	600
550	106	21	2	9	13	1	4	10	6	4·6	6	6 21	8·1	138	4·1	6·8	1·0	0·4	650
700	116	25	2	9	15	2	5	11	7	4·4	7	6 59	9·0	135	4·5	7·4	1·2	0·5	700
	127	29	3	10	17	2	5	12	7	4·2	8	7 39	9·9	132	4·9	8·1	1·5	0·6	750
800	139	34	3	10	19	2	6	12	7	4·0	9	8 21	11·0	129	5·3	8·8	1·8	0·6	800
850	151	39	3	11	22	3	6	13	7	3·9	10	9 05	12·0	127	5·7	9·6	2·1	0·7	850
900	164	45	4	12	25	3	7	14	8	3·7	11	9 51	13·0	124	6·1	10	2·5	0·8	900
950	177	52	4	13	28	3	8	14	8	3·6	13	10 39	14·0	121	6·5	11	2·9	0·9	950
1000	191	60	5	14	31	4	9	15	8	3·4	14	11 29	16·0	119	7·0	12	3·3	1·0	1000
1050	206	69	5	15	34	4	10	15	8	3·2	16	12 21	17·0	116	7·5	13	3·7	1·0	1050

Appx. 'B' (Conto

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)	(u)
1100	221	79	6	16	37	4	11	16	8	3·0	17	13	16	19·0	114	8·0	13	4·2	1·1	110
1150	237	89	6	17	40	5	12	16	9	2·8	19	14	14	20·0	112	8·5	13	4·7	1·2	115
1200	253	100	7	18	43	5	13	16	9	2·7	20	15	16	22	110	9·1	13	5·2	1·3	120
1250	273	112	7	19	47	5	14	17	10	2·5	21	16	22	24	108	9·6	13	5·8	1·4	125
1300	292	126	8	21	51	6	15	17	10	2·4	23	17	32	25	107	10	14	6·4	1·5	130
1350	313	142	8	22	56	6	16	18	10	2·2	25	18	46	27	105	11	14	7·1	1·6	135
1400	335	160	9	23	61	7	17	18	10	2·1	27	20	05	30	104	11	14	7·8	1·6	140
1450	359	180	10	24	66	7	18	18	11	1·9	30	21	31	32	102	12	14	8·6	1·7	145
1500	386	203	11	25	71	8	19	19	11	1·7	33	23	08	34	101	13	14	9·5	1·8	150
1550	417	231	12	27	77	8	21	19	11	1·5	37	25	00	37	100	14	14	11	1·9	155
1600	453	266	14	29	84	9	22	19	11	1·2	47	27	11	40	100	15	14	13	2·1	160
1650	496	309	16	32	92	9	23	20	12	0·8	75	29	47	44	100	16	15	15	2·4	165
1700	557	368	19	36	102	10	25	20	12	—	—	33	24	49	100	17	15	18	2·7	170
1730	667	481	24	41	117	10	26	19	11	—	—	40	00	56	102	20	16	24	3·4	173
1700	768	588	30	48	127	11	26	19	11	0·8	85	46	06	62	104	22	17	31	3·7	170

a.	b	c	d	e	f	g	H	I	J	K	L	m	N						
650	833	634	55	55	131	10	26	18	10	1·1	58	50	00	65	106	23	16	34	3·7	1650
600	879	698	39	57	133	10	26	17	10	1·3	46	52	45	67	107	24	15	36	3·7	1600
550	917	733	43	60	135	10	25	17	10	1·5	39	55	00	69	108	24	15	38	3·7	1550
500	949	763	47	64	136	10	24	16	10	1·7	34	56	57	70	108	25	15	39	3·7	1500
450	978	789	51	67	136	9	23	15	9	1·9	30	58	42	71	109	25	14	41	3·7	1450
400	1005	811	54	71	136	9	23	15	9	2·0	27	60	18	72	109	26	14	43	3·8	1400
1350	1029	830	58	74	136	9	22	14	8	2·2	85	61	46	73	110	26	14	45	3·9	1350
1300	1052	847	62	78	136	9	21	14	8	2·3	23	63	08	74	110	26	13	46	4·0	1300
1250	1074	861	66	82	135	8	21	13	8	2·5	21	64	25	75	110	26	13	48	4·1	1250
1200	1094	873	70	87	135	8	20	13	7	2·6	20	65	38	76	110	27	13	50	4·3	1200
1150	1113	883	75	91	134	8	19	12	7	2·7	18	66	47	76	110	27	12	52	4·4	1150
1100	1131	891	80	96	134	7	18	11	7	2·8	17	67	53	77	110	27	12	54	4·5	1100
1050	1119	898	85	101	133	7	18	11	6	2·9	16	68	57	78	110	27	12	56	4·6	1050
1000	1167	905	90	106	133	7	17	10	6	3·0	16	70	00	79	109	27	12	59	4·7	1000