



**DIRECTORATE GENERAL  
FIRE SERVICES, HOME GUARDS & CIVIL DEFENCE,  
ODISHA**

**TENDER CALL NOTICE  
NO.-3/2020-21.**

1. Sealed tenders are invited from the original equipment manufacturer (OEM) or their authorized agent/ dealer for purchase of different types of equipment during 2020-21. The details of equipments with requirement are as follows.

Sl No.	Name of the item	Approximate Quantity
1	Installation of Modern Breathing Apparatus Training Gallery at OFDRA, Bhubaneswar	01 Unit (at Odisha Fire & Disaster Response Academy, Baramunda, Bhubaneswar)
2	Plasma Cutter (For Cutting Electrically Conductive Materials includes Steel, Stainless Steel, Aluminum, Brass and Copper etc.)	10 Nos

2. The tender document with detail technical specification may be seen from the state website [www.odisha.gov.in](http://www.odisha.gov.in) and Odisha Fire Service website [www.odishafshgscd.gov.in](http://www.odishafshgscd.gov.in). The tender document may be obtained by depositing `500/- (Rupees five hundred) only between 11.00 A.M to 5.30 P.M each working days from the office of the undersigned at the address given below or downloading from state website and should be submitted duly signed in each page of the tender document with seal in token of having read understood and accepted the terms and conditions of the contract in the address given below. The tender should be submitted in prescribed format along with a Demand Draft Non-A/C payee of `500/- (Rupees five hundred) only payable at SBI, Main Branch, Cuttack (Code No-0059) in favour of D.D.O, Directorate General of Fire Service, Odisha, Cuttack, towards the cost of tender paper in case of firms submitted tender by downloading the tender document from website. However, the authorities shall not be responsible for postal or any other delay.
3. The bidder has right to quote any one of the item and it is not mandatory to quote all items mentioned in the tender.
4. Bids submitted other than the manner prescribed in the tender document shall be rejected.

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

5. The Tender Calling Authority has right to accept or reject the tender(s) without assigning any reason thereof. The bidder should drop the sealed tender packet in the "Tender Box" available in the office of the undersigned by the stipulated date and time at his own risk and responsibilities.
6. Sale of tender document w. e. f. dt. 19-12-2020.
7. Last date for sale of tender document dt. 08-01-2021, 5.30 P.M.
8. Last date for receipt of tender document dt. 08-01-2021, 5.30 P.M.
9. Date for opening of tenders/Technical Bids dt. 11-01-2021, 11.30 AM. onward.
10. The bidders are required to depute their representatives to remain present during opening of Tender/ Technical Bid as per dates mentioned above.
11. The tenders received after the stipulated date shall not be taken in to consideration and liable for rejection.
12. The tender calling authority has the right to cancel or alter quantity of any of above item without assigning any reason thereof.
13. Address.  
Directorate General of F.S, H.Gs & C.D,  
At-3<sup>rd</sup> Floor of Vigilance Directorate,  
Nuapatna, Cuttack, Pin-753001  
FAX-0671-2300201/ 2303387.



**I.G of Police, Fire Service,  
Home Guards & Civil Defence,  
Odisha, Cuttack.**

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Address - 3<sup>rd</sup> Floor, Vigilance Building, Nuapatna, Buxibazar, Cuttack-753001  
Tel. - 0671-2300317, Fax : 0671-2300201,  
E-mail : [dfoprov-ofs@gov.in](mailto:dfoprov-ofs@gov.in), [afoprov-ofs@gov.in](mailto:afoprov-ofs@gov.in)

**TENDER CALL NOTICE NO.-3/2020-21.  
DIRECTORATE GENERAL F.S. H.Gs & C.D., ODISHA, CUTTACK.**



**DIRECTORATE GENERAL  
FIRE SERVICES, HOME GUARDS & CIVIL DEFENCE,  
ODISHA**

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Letter No. \_\_\_\_\_/Prov., Dated. - -202 .

To

M/s

**TENDER CALL NOTICE NO.-3/2020-21.**

**DIFFERENT TYPES OF EQUIPMENTS FOR ODISHA FIRE  
SERVICE ORGANIZATION DURING THE  
FINANCIAL YEAR 2020-21.**

**DIRECTORATE GENERAL  
FIRE SERVICES, HOME GUARDS & CIVIL DEFENCE,  
ODISHA**

Certified that the book contains Page- 1 to 28.

1. Sale of tender document w.e.f - dt.19-12-2020
2. Last date for sale of tender document - dt. 08-01-2021, 5.30 p.m
3. Last date for receipt of tender document - dt. 08-01-2021, 5.30 p.m
4. Date of opening of sealed Tender/  
Technical Bids. - dt. 11-01-2021, 11.30 a.m

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

**TENDER CALL NOTICE NO.-3/2020-21.**

**TENDER DOCUMENT NO-(I)**

**GENERAL CONDITIONS OF THE CONTRACT.**

1. The bidder/supplier should either be an Original Equipment Manufacturer (OEM) or their agent /dealers authorized to sell, supply and service their products. The latest authenticated documentary proof of this shall be submitted. The proof submitted earlier in some other context shall not be treated as valid and sufficient.
2. All the information as called for in the tender document should be submitted truly, clearly, legibly, transparently, unambiguously and without the use of abbreviations. It shall be submitted in English.
3. All the crucial figures, like, rates and amount should written in figures followed by words in a bracket.
4. There shall be no over writing in the tender document and other papers submitted.  
All the addition, alterations, deletions and cuttings should be initialed with rubber stamp (or seal) by the same person, who signs the tender document. Failing so, the tender may be rejected.
5. The tenders (also call bids) not submitted in prescribed format or in the prescribed manner, shall be rejected at the risk and responsibility of the bidder.
6. All the rates and amounts shall be quoted in Indian Rupees (IR) and shall be presumed to be in Indian Rupees unless specifically permitted to be quoted otherwise in these tender documents.
7. The rates quoted shall be valid for a period of one year counted from last date of receipt of bids/ tenders.
8. Each page of this tender document should be signed by the bidder with seal in token of having read, understood and accepted the terms and conditions of this contract.
9. For the Companies and Corporation making the bids, the tender document shall be signed by the Managing Director. If it is otherwise, the authority to sign the tender papers on behalf of the Company/Corporation shall be enclosed. In case of partnership Firm, it shall be signed by the active partner. In case of a Proprietary Firm, the tender document shall be signed by the proprietor.
10. "Legal Status" of a bidder shall mean either proprietorship or partnership of private/Public limited Company or otherwise (to be specified) as the case may be.
11. All the documents and papers submitted with the bid should either be in English or in Oriya and shall be authenticated under the seal and signature of the bidder unless specified otherwise in this tender document. If the documents are in any other language, a true translation in English, duly certified by an independent person of repute, shall be submitted.

**TENDER CALL NOTICE NO.-3/2020-21.**

**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

12. All the promotional and technical literature of the products intended to be supplied should be submitted for proper appreciation of the bid, whether or not specifically call for in this tender document. This literature should also be in English.
13. Submission of more than one competitive bid by the same firm in response to the tender call notice is prohibited. All such bids, except one, will be cancelled at the discretion of the authority calling the bids. A bidder may, however, offer in his bid more than one product of the same Original Equipment Manufacturer (OEM) if in his opinion, all such products meet the prescribed technical specification s. In that case, he should submit "Technical Bid" of all such products separately but in the same prescribed format, in the same sealed single cover. Separate "Financial Bids" should also be submitted similarly in the same sealed single cover (see below for the meaning of sealed cover).

**NOTE**

- i) A bidder can not bid the same item for more than one OEM firm.
14. The bidder may use separate piece of paper, where the space provided in the formats in this tender document for submission of information, is not sufficient. The information in the separate sheet of paper shall be prescribed format and each page should be serial numbered and duly authenticated.
15. All the information submitted or supplied in the formats in this tender document shall be presumed to be true to the best of knowledge of the bidder.
16. No firm/Company without valid Value **GST Registration number** and PAN shall be eligible for submitting bids. Firms blacklisted shall also not be eligible for participating in the bid.
17. Copy of Valid Registration Certificate issued by competent Authorities under the **GST Act** and copy of PAN shall be enclosed to the Tender document. In no case other certificates issued by authorities in lieu of such certificates shall be accepted.
18. Copies of income Tax return and Annual VAT and CST returns of previous year along with copies of Audited Balance Sheets, P/L a/c and Trading a/c of previous year where ever applicable need also be enclosed to the Tender document by the Original Equipment Manufacturer / Authorised Agent of OEM.
19. At the time of opening of Tender/Financial bid the bidder will have to satisfy the competent authority that he is not only authorised as per his Registration Certificates to deal in the tendered item but he has also a running business in such items and he has the ability to supply the tendered quantity in prescribed time limit and to meet the warrantee conditions of the product.
20. The Bid Security/ Earnest Money Deposit (EMD) shall either be in the form of Demand Draft/Banker's Cheque of a scheduled Bank payable at Cuttack or by pledging of NSC/FDR/Postal Saving Pass Book all in favour of D.D.O, Directorate General of Fire Service & Home Guards & Civil Defence, Odisha, Cuttack. EMD shall be returned immediately after the rejection of a Bid. The DD/Banker's

**TENDER CALL NOTICE NO.-3/2020-21.**

**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

Cheque/NSC/FDR/Postal Saving Pass Book etc. shall be returned in original with or without reverse endorsement as required for the refund. EMD of the successful bidders shall be retained till the supplied materials/articles are successfully delivered as ordered or adjusted against performance security. After that it shall be returned in the same manner as in the case of unsuccessful bidders.

21. This tender document has prescribed a two bid format for submitting the offers. It contains the "TECHNICAL" and 'FINANCIAL' bid formats. Both the bids shall be submitted in separate sealed cover identified as 'TEHCNICAL' or 'FINANCIAL' bid after detaching their formats from this tender document. Both the sealed covers, the remaining part of this tender document and all the other papers/documents should be put inside a bigger sealed cover and shall be delivered as per conditions published in the tender call notice. All the sealed covers shall have boldly written with the name of the supplier/bidder, the tender call notice number and the last date for submission.
22. The tenders or the bids can be sent by Regd. Post or courier as well. However, the authorities shall not be responsible for the postal and other delays in receipt of bids. The Tenders/ Bids can also be dropped in the sealed "Tender Box" kept in the office of the Tender Calling Authority.
23. If the last date for submission of the tender/bid turns out to be a holiday, it will automatically be extended to next working day.
24. The tender calling authority shall make arrangements in his office for issuing a written acknowledgement, under proper seal and signature of the filled in tenders, provided those are submitted on or before the due date. The acknowledgement shall be issued even if the tenders are required to be dropped in a sealed box. The acknowledgement receipt shall mention, among others, the tender call notice number.
25. A bid submitted can not be withdrawn. The bidder or his authorized representative (one person only) will be allowed to be present at the time of opening of tenders. They will not participate in the discussions. Clarifications sought, if any, may be provided by them.
26. All or any of the tenders (or bid) submitted can be rejected without assigning any reason thereof. No claim, whatsoever, shall be admissible for; the alleged loss/damage suffered by the bidders on account of such rejections.
27. The sealed Tenders and Technical Bids shall be opened by the Technical Committee in 1<sup>st</sup> stage. The documents like EMDs, GST Regd. No. etc shall be verified to ensure that the bidders have been found to have fulfilled all the prescribed criteria and conditions of this tender document other than technical specifications of the products.
28. All the products, failing to fulfill the prescribed technical specifications, will be rejected. Decision of the Technical Committee in this respect shall be final and binding. A bidder can improve the technical specifications of the product offered

**TENDER CALL NOTICE NO.-3/2020-21.**

**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

before the opening of 'Financial Bid'. Decision of the Technical Committee on, whether or not, the revised specification is an improvement, shall be final. Improvement in the technical specifications offered as above, may be accepted or rejected at the discretion of the Tender Calling Authority.


29. Notwithstanding an offered product meeting the prescribed technical specifications, it may be rejected, if it has not been tried and tested or used in Orissa Fire Service with satisfaction. It may also be rejected if the bidder fails to successful demonstration before the Technical Committee.
30. 'Financial Bids' shall be opened only in those cases, where one or more of the offered products have fulfilled the prescribed technical specifications. No preference or extra payment shall be admissible for the superior technical specifications or quality of the like if any. All the financial documents like Registration Certificate issued under GST Act and IT Acts, IT, S.T returns, Audit Balance Sheet, Trading Account and P/L Account shall be verified at the time of opening of Financial Bids.
31. All the prices quoted shall be FOR Cuttack, Odisha. This means that the prices shall include the cost of delivery at Cuttack.
32. The authorities are not bound to accept the lowest Financial Bid.
33. The order for supply may be placed on the successful bidders but the technical specifications (or quality requirements) for the purpose of supply shall be those, which were offered and accepted by the Technical Committee and not those specified in the tender document.
34. On delivery, the supplies or products shall be inspected to verify the quantity and to see whether those are in accordance with the technical specifications (or quality requirements) for which the order was placed. If it turns out to be otherwise the acceptance of delivery shall be refused at the risk and responsibility of the supplier. Further, the articles found damaged shall not be counted as accepted until repaired or replaced to the satisfaction of the authority.
35. Short deliveries may not be accepted. All the items ordered must be supplied in full for claiming even the part payment.
36. All the transit risks shall be the responsibility of the supplier.
37. User manuals of the product shall be supplied without being asked for or even if it is not mentioned in the supply order. Moreover, it should be in English.
38. Failure to supply the order in full within the stipulated period or supply of substandard goods may lead to forfeiture of EMD and blacklisting of the suppliers. If at all the delivery is allowed to be accepted after the due date, Liquidated Damages (LD) @ 0.5% of the total amount of order (excluding taxes) per week or part thereof shall be charged from the bidder, however, that the L.D. shall not exceed 5% of the amount of order.

**TENDER CALL NOTICE NO.-3/2020-21.**

**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

39. The supplier shall submit an undertaking given by him or the OEM committing to supply spare parts for the maintenance of the supplied items for a period at least 18 months from the date of supply.
40. The supplier shall give a "Performance Warranty" for a minimum period mentioned in the special condition or one year of the contract. 5% of the amount of the order (excluding taxes) as mentioned in the special conditions of the contract shall be deposited in shape of FDR/Irrevocable Bank Guarantee duly pledged in favour of Tender Calling Authority and shall be returned after the performance warranty period is over. The said amount may be forfeited partially or fully for failure to fulfill the terms and condition of supply and post sales commitment/obligations. The Bank Guarantee should be enforceable and payable at Cuttack. The Performance Security should remain valid for a period of 60 days beyond the date of completion of the obligation of the supplier including warranty obligations.
41. The bidder must submit in a separate paper mentioning "complied or not complied" against each column of the Tender Specification given in the Tender document.
42. Terms and conditions of this tender document can not be negotiated for variation without obtaining the prior approval of the Govt.
43. All the clarifications sought from the bidders/suppliers on technical specifications of the products or otherwise shall be promptly submitted in a transparent and unambiguous manner.
44. Entire tender document duly filled in shall be treated as part or the contract agreement for supplies in case of the successful bidders.
45. All the disputes shall be subject to jurisdiction of Civil Courts situated at Cuttack.
46. The bidder shall submit all required documents along with tender. Under no circumstances a bidder would be allowed to make any addition/ alteration if any, related to tender or to submit required documents after receipt of the tender by the tender calling authority.

**Seal & Signature of the Bidder**

  
**I.G of Police, Fire Service  
Home Guards & Civil Defence,  
Odisha, Cuttack.**



**TENDER CALL NOTICE NO.-3/2020-21.  
DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

**TECHNICAL BID**

<b>SL.NO.</b>	<b>NAME OF THE ITEMS.</b>	<b>WHETHER OFFERED PRODUCTS FULFILLS THE DETAILED TECHNICAL SPECIFICATIONS KINDLY ANSWER YES OR NO ONLY.</b>	<b>OFFERED SPECIFICATIONS AND DETAILS OF VARIATIONS IF ANY.</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

**Signature & Seal of the Bidder.**

**TENDER CALL NOTICE NO.-3/2020-21.  
DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

**FINANCIAL BID**

**TENDER CALL NOTICE NO.-3/2020-21.**

**NAME OF THE ITEMS..... PER UNIT IN INDIAN RUPEES**

1. Price including all the duties & levies :
2. Basic Unit Price :
3. IGST @ - % - :
4. CGST @ - % - :
5. OGST @ - % - :
6. Other Charges (To be specified)
7. Total Unit price of the Item :
8. Total amount payable for supply of  
entire quantity of the item mentioned  
in the tender document. :
9. Name of the Original Manufacturers and  
The brand name or trademark of the item :

**Signature & Seal of the Bidder.**


**TENDER CALL NOTICE NO.-3/2020-21.  
DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

**GENERAL BID FORM**

**(TENDER CALL NOTICE NO.-3/2020-21)**

1. Name, Full Address, Fax No.  
Telephone No. & E-Mail of the firm. :
2. Legal status of the firm :
3. Items for which you have submitted  
the Bid :
4. For which of the items above you are the  
ORIGINAL EQUIPMENT MANUFACTURER  
(OEM) :
5. Give the location and Address of your  
Factory. :
6. For the items listed at (3) above and  
where you have submitted the bid but  
you are not the O.E.M. indicate against  
each the names of the O.E.M :
7. Kindly confirm by writing 'yes' or 'no' only  
that you have been authorized by the  
respective O.E.Ms either as dealer or as  
sale, supply and servicing agent in respect  
of the items you are not the (OEM) :
8. Which of the items, you have submitted  
the bids for, will be fully or substantially  
imported. Indicate the country to be  
imported from. :
9. Have you enclosed the EMD? If yes,  
mention the amount and its identifying  
details.
10. Have you enclosed all the documents  
and papers called for in this tender  
document? Kindly enclose a list(use  
a separate sheet of paper) :
11. If the answer to (10) above is 'No' which  
is the documents/document have not been  
enclosed.(Kindly enclose a list of such  
documents/papers).Use a separate sheet  
of paper if necessary. :
12. Do you have a post sales servicing,  
center in Odisha? If yes, give its name,  
full address, Fax and Telephone numbers.

**Seal & Signature of the Bidder**

  
**I.G of Police, Fire Service,  
Home Guards & Civil Defence,  
Odisha, Cuttack.**

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

**SPECIAL CONDITION OF THE CONTRACT.**

**TENDER CALL NOTICE NO.-3/2020-21.**

**TENDER DOCUMENT NO. (II)**

1. The Special Conditions given here shall prevail over the General Conditions.
2. **Bid Security:** - The tender document shall accompany with Earnest Money Deposit (EMD) at the rate quoted at Col-5, Para-3 without which tender shall be rejected. The EMD deposited instrument should be available outside the sealed covers of "Technical" and "Financial" Bid. (EMDs available in the Technical Bid also be accepted). However the MSEs registered in Odisha with respective DICs, Khadi Village, Cottage and Handi craft Industries, OSIC and NSIC shall pay 25% of the prescribed security deposit while participating in tender.
3. **Quantity:** - Sealed Bids in this tender document have been invited for the supply of the items listed below. The approximate quantity required has been mentioned against each. The detailed technical specifications of each item are available in the **Annexure-'A'** to "Special Conditions of the contract" identified against each.

Sl No.	Name of the item	Approximate Quantity	Technical Specification	E.M.D Value
1	2	3	4	5
1	Installation of Modern Breathing Apparatus Training Gallery at OFDRA, Bhubaneswar	01 Unit (at Odisha Fire & Disaster Response Academy, Baramunda, Bhubaneswar)	Technical Specification as Annexure-A	8,26,000/-
2	Plasma Cutter (For Cutting Electrically Conductive Materials includes Steel, Stainless Steel, Aluminum, Brass and Copper etc.)	10 Nos	-- do --	6,00,000/-

4. The quantities mentioned above are subject to variations. The rates quoted per Unit shall continue to be valid even if the quantities of items mentioned above are varied. Further, the bidder should certify that the rates quoted by it or any item listed above shall remain valid subject to variation in any Govt. Tax Structure on the same (i.e. base price of the item quoted shall remain valid irrespective of variation in the Tax Structure) for a period of one year from the date of finalization of the rate by the Purchase Committee.

**TENDER CALL NOTICE NO.-3/2020-21.**

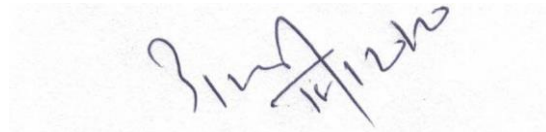
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

5. It shall not be necessary to bid for all the items above.
6. The bidder shall submit along with this tender document a list of names, complete address, Telephone/FAX number of the customers to whom, the item, for which the bid has been submitted, have been supplied and installed in last three year, if any. A clear, unambiguous statement shall be made if an item has not been sold anywhere in India so far.
7. The supplies shall be delivered at Cuttack.
8. Working of the equipment shall also be demonstrated and the expenditure incurred thereof shall be borne by the supplier.
9. The supplier shall train at their cost our employees.
10. **Performance Security:** - The successful bidder shall have to enter into an agreement with the Tender Calling Authority for successful completion of supply/ installation of the tendered items after proper inspection within the stipulated period and also for performance warrantee of the items from the date of supply/ installation up to a period of one year. In this regard the selected firm shall have to deposit 5% of the cost of stores excluding taxes as security deposit called as Performance Security in shape of FDR/ irrevocable Bank Guarantee duly pledged to the Tender Calling Authority which will be returned back after performance warrantee period is over. The Performance Security should remain valid for a period of 60 days beyond the date of completion of the obligation of the supplier including warranty obligations.
11. All the supplies made shall be subject to a minimum period of one year warrantee for all items.
12. OEMs/ Authorized venders should mention the price of the quoted tender items including respective period of AMC cost as mentioned in the specification. The basic price of quoted items mentioned in the Financial Bids of OEM/ Authorized Vender should be treated along with the AMC Cost.
13. Other things being equal, preference shall be given to a bidder, who has opened his sale and service center in Odisha.
14. If an equipment or supply goes out of order within the warranty period and the supplier is informed above it, It must be attended to within 48 hours counted from the time the service call is placed.
15. **Payment:** - No advance shall be paid. 100% of the payment will be made on delivery of supplies after successful installation and demonstration.
16. The firms located outside the State of Odisha should include their transportation charges with the basic price.

**TENDER CALL NOTICE NO.-3/2020-21.**

**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

17. Entry Taxes, if any should be clearly indicated in the tender. The amount if paid by the party should be supported with documentary evidence, failing which the said amount shall be deposited by way of Treasury challan.
18. The bidder must attend the Technical Committee with samples for evaluation/ demonstration purpose. Without sample the offer will be not taken into consideration.
19. Before under taking the final contract the successful tenders will have to enter into an agreement with the department at their own cost in Govt. stamp paper.
20. **Sample:** - The tender shall accompany samples of the items quoted. No rate shall be quoted without furnishing the sample. In case the rates are quoted without samples, the tender is liable for rejection. The parcel containing samples should be freight paid. A label with seal and the details of manufacturing unit/ company with trademark of the articles so tendered, if any should be affixed to the sample. The label should contain a reference to the serial number of the articles quoted/ indicated in the tender. In respect of all ISI products mentioned in the tender the relevant ISI mark shall be printed on the sample. For each item not more than 2 (two) variety of samples shall be submitted by a vender.
21. As regards ISI marked, the attested copies relating to valid Registration of IS number of the item, if obtained from Indian Standard Bureau, New Delhi are to be enclosed.



**Seal & Signature of the Bidder**

**I.G of Police, Fire Service,  
Home Guards & Civil Defence,  
Odisha, Cuttack.**

**TECHNICAL SPECIFICATION OF DIFFERENT TYPES OF EQUIPMENTS FOR  
ODISHA FIRE SERVICE ORGANIZATION VIDE TENDER CALL  
NOTICE NO.-3/2020-21.**

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**1. INSTALLATION OF MODERN BREATHING APPARATUS TRAINING GALLERY AT OFDRA, BHUBANESWAR.**

**Introduction**

The Training Galleries shall be used primarily to train Breathing Apparatus users in carrying out tasks while being mentally and physically stressed. Through use of this facility, the SCBA user's skills shall be improved in areas of orientation, communication, rescuing casualties, industrial related rescue and sharpening reactions relying on senses other than sight. The training gallery is used primarily to train Breathing Apparatus users in carrying out tasks under conditions like real life situations. Through use of this facility, the performance of the trainees is improved in areas of orientation, rescuing casualties, industrial related rescue and sharpening reaction time. The training galleries provide a means whereby SCBA users can be trained in these required areas. To achieve these training objectives, the galleries are configured with variable orientation routes designed around a modular construction method along which obstacle are placed. The B.A. gallery helps familiarable the firemen using the breathing apparatus while being exposed to

- i) Total pitch darkness
- ii) Total smoke obstruction
- iii) Heated atmosphere
- iv) Industrial sound
- v) Light effect
- vi) Combination of above
- Vii) Different type of abstracts and un-fined space.

The tasks are made more complicated by incorporating distracting effects such as darkness, smoke, and noise. Safe and effective use of self-contained breathing apparatus (SCBA) requires more from the user than a basic familiarization of how the SCBA works and how to don and doff the apparatus. In addition to the basic familiarization, SCBA user training must:

- Physically stress the trainee
- Mentally stress the trainee
- Provide areas of restricted movement
- Let the user practice work skills
- Be safe and controlled

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

**Design Aspects**

The training gallery is designed with an efficient arrangement of components in the limited space available, while maintaining a system that meets the training objectives identified above. Additionally, areas for the classroom and control room compartment are included. Safety for the trainees is ensured by having access to the maze panels for evacuation in the case of a trainee experiencing difficulties. The three main components of the training gallery are:

- i. Maize with Orientation section
- ii. Obstacles
- iii. Safety and communication systems
- iv. Control and Observation Station
- v. Simulation systems.

**The Maize**

The maze is constructed from a tubular steel framework with wire mesh side panels and wood floor panels. Orientation route comprises of Minimum 32 m crawl section, storey height 800 - 1000 mm (950mm) and minimum 32 m walking section, storey height 1750 - 2000 mm, (1750mm) grid size 950 x 950 mm; freestanding, with diagonal bracing, made up of system modules. The maze passageway contains numerous obstacles to mentally stress the trainee and create situations of restricted manoeuvrability. Once constructed, the simplicity of the design enables the training staff to construct a new layout in a relatively short space of time, be it domestic, commercial or industrial layout, thus preventing familiarity of the trainees with the maze.

**Obstacles In Maize**

Physical obstacles are placed within the maze route. These obstacles restrict the opening size by either cutting it in half vertically, horizontally or diagonally. In addition to the physical obstacles in the maze, the training session can be made more Physical obstacles are placed within the maze route. These obstacles restrict the opening size by either cutting it in half vertically, horizontally or diagonally. In addition to the physical obstacles in the maze, the training session can be made more

**Safety and Communication**

Communication systems, infrared and optional thermal imaging camera systems are incorporated for monitoring trainees and responding to ensure a safe and controlled training session every time.

Directional lights are in various positions in the maze passageway to assist any trainee experiencing difficulties. These lights only illuminate a small



## **TENDER CALL NOTICE NO.-3/2020-21.**

### **DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

portion of the maze and shall not give away the entire route. A ventilation system consisting of fans and appropriate ducting is used to exhaust smoke from the orientation section at the end of the training session or in the event of an emergency. The control desk is the focal point from which training is controlled and monitored. All the necessary equipment is ergonomically arranged on the control panel.

#### **Control Room**

The Control Room includes the following (depending on features selected):

- TV monitors
- Communications
- Video recording
- Lighting controls
- Temperature controls
- Smoke controls
- Ventilation controls
- Sound effects

#### **Simulations**

Depending on available options following effects can be simulated:

- Smoke machine
- Strobe lights
- Ventilation system
- Infrared cameras
- Directional lights
- Gallery lights

#### **Emergency Switch**

In an emergency, a single-button control activates lighting and ventilation and cancels all other functions to aid safety officers in helping the distressed trainee. Trainees are continuously monitored, from the control desk, while inside the Training Room. In case a trainee panics or an unsafe condition occurs, an instructor can intervene and direct the safety officers inside the Training Room to the trainee's location.

#### **Breathing Apparatus Training Gallery**

The Training Galleries shall be used primarily to train Breathing Apparatus users in carrying out tasks while being mentally and physically stressed. Through use of this facility, the SCBA user's skills shall be improved in areas of orientation, communication, rescuing casualties, industrial related rescue and sharpening reactions relying on senses other than sight.

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

The training gallery is used primarily to train Breathing Apparatus users in carrying out tasks under conditions like real life situations. Through use of this facility, the performance of the trainees is improved in areas of orientation, rescuing casualties, industrial related rescue and sharpening reaction time. The training galleries provide a means whereby SCBA users can be trained in all these required areas. To achieve these training objectives, the galleries are configured with variable orientation routes designed around a modular construction method along which obstacles are placed. The tasks are made more complicated by incorporating distracting effects such as darkness, smoke, and noise. Safe and effective use of self-contained breathing apparatus (SCBA) requires more from the user than a basic familiarization of how the SCBA works and how to don and doff the apparatus. In addition to the basic familiarization, SCBA user training must:

<b>DETAILED TECHNICAL SPECIFICATION FOR BREATHING APPARATUS TRAINING GALLERY.</b>		
<b>Sr. No.</b>	<b>Description</b>	<b>Qty</b>
1	<b>CONTROL ROOM AND SAFETY SYSTEMS:</b>	
	The exercise progress can be continually controlled, monitored and analyzed from the control room. Security facilities such as ventilation, security cameras, position indicator, emergency-Stop and removable lattices provide the highest possible safety for the trainees. The component of control room and safety system are as follows:	
1.1	<b>Control desk:</b>	
	Control desk will be used for central control & monitoring, made up of the following system modules:	
1.1.1	<b>Basic unit:</b> Desk frame with following specifications:	1 Nos
	Paintwork textured finish, Brilliant blue, with three-section top at desk height, Mains supply with main switch 100 A, earthing Contact-type socket for service work, transformers for control Voltages: 220 and 24 V and orientation lights.	
1.1.2	<b>Clock :</b> Digital clock with LED display, integrated in control board.	1 Nos
1.2	<b>Temperature Measuring System</b>	

**TENDER CALL NOTICE NO.-3/2020-21.  
DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

1.2.1	<b>Temperature indicators</b> For ambient temperature monitoring and heating zone temperature controlling Digital, with LED digits Installation: in control board	
1.2.2	<b>Ambient-temperature sensor</b> Type: RTD, Range : 0 to 100 Degree C (min) Installation: training area	1 Nos
1.2.3	<b>Radiant heat sensor</b> Special design with resistance indicator Type: RTD, Range: 0 to 100 Degree C (min) Installation: training area	1 Nos
1.3	<b>Room Lighting</b> Consist of following:	
1.3.1	<b>Room lighting control system</b> During training switching is affected from control desk, Installation: in control desk	1 Nos
1.4	<b>Acoustic Monitoring System</b>	
1.4.1	<b>Announcement System</b> With microphone and loudspeaker Includes a facility to stop working noise system for messages Output 25 W, Installation: in control desk.	1 Nos
1.4.2	<b>Intercom (stations)</b> For connecting five stations Equipped with individual speak and call mode, choice of station switch, total 4 instruments Installation: one in Control desk and others on training area	1 Nos
1.5	<b>Television Monitoring System</b>	
1.5.1	<b>Screen diagonal: min. 7 "</b> Installation: Control desk	1 Nos
1.5.2	<b>Circuit for desk monitor</b> Fuse contactor and luminous switch, with Connection to lamp test circuit, for supply of desk monitor and cameras. Installation: in control panel.	1 Nos
1.5.3	<b>Spotlight</b> Installation: in training room	1 Set
1.5.4	<b>Switching unit for Spotlight</b> Installation: in control desk	1 Set

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

1.5.5	<b>IR CCTV cameras with swivel head</b> With Built in min 8 pc LED Effective range up to 10 meters Will confirm to IP67	4 Nos
1.5.6	<b>Switching unit for large-screen monitor</b> With video change-over switch, via which each of the scenes depicted on the desk monitors can be switched to the large-screen monitor and recorded on the video recorder. Installation: in control desk	1 Nos
1.5.7	Switching unit for reproduction on desk monitor with video change-over switch, via which each of the scenes depicted on the desk monitors can be recorded on the video recorder. Replay via one of the desk monitors. Installation: in control desk	1 Nos
1.5.8	<b>Large-screen monitor</b> with min. 37" picture tube diagonal, for video input signal, Installation: in control room	1 Nos
1.5.9	<b>Video recorder</b> For recording and replay of training sessions System: CD player complete, including Compact disk. Installation: in control desk	1 Nos
1.6	<b>Orientation aid</b>	
1.6.1	Orientation light For giving light signals when training in darkness and fog, with bulb 24 V / 2 W E14, colorless cap and tool holder, for fitting in assembly grid of orientation section, movable. Installation: in Training room with on off switch	4 Nos
1.7	<b>Ventilation system</b>	
1.7.1	<b>Exhaust Air supply</b>	2 Nos
1.8	<b>Distress Signal Unit</b>	4 Nos
2	<b>SIMULATION EQUIPMENT</b> In exercise labyrinths across several levels with many different training elements, orientation and resilience are practiced. Additional effects like smoke, background noises and darkness create realistic surroundings and test psychological resilience.	
2.1	<b>HEAT SIMULATOR</b>	

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

	2.1.1	<b>Hot zone</b> Rating: 10 kW, comprising solid support made of steel profile, with tension brackets for fixing on supports of orientation section, overhang 350 mm. Installation: in Training room	1 Set
	2.1.2	<b>Switching facility for hot zone</b> 10 kW, 2 stages Installation: in control desk	1 Nos
	2.1.3	<b>Protection cover</b> Suitable for hot zone 6 kW and 10 Kw Back elevation: steel plate, painted matt black, Front: corrugated lattice, painted matt black Installation: in Training room	1 Nos
	2.2	<b>Smoke Generation unit</b>	
	2.2.1	<b>Smoke Machine</b> For Mobile and Stationary use in the training room to produce artificial harmless fog with remote control. Installation: in training room.	1 Nos
	2.2.2	<b>Switching facility for Smoke generator</b> Installation: in control desk	1 Nos
	2.3	<b>Noise Unit</b>	
	2.3.1	<b>Control unit</b> For noise system with Disk recorder, power pack and noise disk. Installation: In control desk	1 Nos
	2.3.2	<b>Loudspeaker for noise unit</b> Capacity: min 10 W Installation: in Training room	2 Nos
	2.4	<b>Light Effect Unit</b>	
	2.4.1	Control element for light-effect unit with mains switch and three-port lighting console for connection to disk player. Installation: in control panel	1 Nos
3		<b>TRAINING AREA</b> The training program offers different levels of difficulty and can be adjusted to the different physical abilities of the test persons. The maze order can be easily adjusted by simply changing the individual lattice elements. The training course thus offers ever new training conditions.	
	3.1	<b>Orientation section</b>	

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

		Minimum 32 m crawl section, storey height 950 mm (+/_ 10mm) and minimum 32 meter walking section, store height 1750 mm, (+/_ 10mm ) grid size 1750x950 mm(+/_ 10mm) free-standing, with diagonal bracing, made up of system modules comprising:	
3.1.1		<b>Support 950/1750</b> for one creep section with storey height 950mm (+/_ 10mm) and one walk section with storey height 1750mm (+/_ 10mm) with tubular spacers made of steel 40 x 1.5 mm, galvanized, transfer joints with eight holes for fitting floor panels, assembly grids and obstacles, threaded feet for height adjustment and connecting elements for horizontal bracing.	1 Set
3.1.2		<b>Floor panel</b> 38 mm thick chipboard, as well as support profiles and diagonal ties made of steel for fitting in transfer joints	1 Set
3.1.3		<b>Assembly grid 950</b> For fitting in orientation section, for storey height 950 mm. Square profile frame 25 x 1.5 mm, corrugated lattice 50 x 50 x 4, and steel, primed, painted matt black.	1 Set
3.1.4		<b>Assembly grid 1750</b> for fitting in orientation section, for storey height 1750mm. Square profile frame 25 x 1.5 mm, corrugated lattice 50 x 50 x 4, steel, primed, painted matt black.	1 Set
3.1.5		<b>Wall bracing</b> For solid fixing of orientation section at surrounding walls, with adjustable bar, steel, galvanized, 20 x 1 mm	1 Set
3.2		<b>Obstacles</b>	
3.2.1		<b>Obstacle "manhole 950"</b> Perpendicular, for fitting in orientation section in same manner as assembly grid, for storey height 950 mm and 1750 height, the manhole diameter 600 mm, with locking element to prevent lifting out, steel, primed, painted matt black.	1Set
3.2.2		<b>Obstacle "crawling pipe"</b> minimum 3000 mm long, and 700 mm diameter with two assembly frames for fitting in orientation section, for frame height 950 mm contact-making via two floor panels, locking element to prevent lifting out, and steel, primed, painted matt black.	2 Nos

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

3.2.3	<p><b>Obstacle "casement door"</b>  Perpendicular - for fitting in orientation section in same manner as assembly grid, for storey height 950 mm, steel, left-hand hinges with two casement fasteners, handles on either side, locking element to prevent lifting out. Steel, primed, painted.</p>	1 Nos
3.2.4	<p><b>Obstacle sliding door</b>  Including lattice partition with rods, for fitting perpendicularly into orientation section, for storey height 950 mm. Frame covers two sections so that opening one passage simultaneously closes the adjacent passage. Steel, primed, painted matt black. Frame: Square profile 25 x 1.5 mm with corrugated lattice.</p>	1 Nos
3.2.5	<p><b>Obstacle "inclined plane"</b>  Can be hung into the orientation route as connection between the walking- and the crawling section. Waterproof chipboard, 38 mm.</p>	4Nos
3.2.6	<p><b>Obstacle "pass through"</b>  For usage in the orientation section, instead of a floor panel, Flake board, 38 mm thick, waterproof, manhole dia 600 mm with edge profile lid and a grab handle up and down for each closing by hand, after opening support profiles are made of steel for hanging into the strut attachment fittings.</p>	4Nos
3.2.7	<p><b>Obstacle grid H (horizontal half)</b>  Upper half filled with corrugated lattice 50 x 50 x 4 mm  For fitting in orientation section with storey heights of 950mm and 1750 mm (+/_ 10mm), square profile frame 25 x 1,5 mm Including fixing buckles. Steel, primed, painted matt black.</p>	1 Set
3.2.8	<p><b>Obstacle grid HU (horizontal half)</b>  Lower half filled with corrugated lattice 50 x 50 x 4 mm for fitting in orientation section, for storey height 950mm and 1750mm (+/_ 10mm), Square profile frame 25 x 1,5 mm Including fixing buckles. Steel, primed; Painted matt black</p>	1 Nos

**TENDER CALL NOTICE NO.-3/2020-21.  
DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

3.2.9	<p><b>Obstacle grid V (vertical half)</b> Can be hung in the orientation route for a floor height of 950 mm (+/_ 10mm), Square profile frame 25 x 1,5 mm, half size perpendicular filled with corrugated lattice 50 x 50 x 4 mm. Including fixing buckles. Steel, primed Painted matt black</p>	1 Nos
3.2.10	<p><b>Obstacle grid D (diagonal half)</b> Can be hung in the orientation route for a floor height of 900 or 1000 mm. Square profile frame 25 x 1.5 mm, half size perpendicular filled with corrugated lattice 50 x 50 x 4 mm. including fixing buckles; Steel, primed, painted matt black</p>	1 set
3.3	<p><b>Intermediate profile</b> To fasten the obstacle elements in walking section. Steel, primed, painted matt black</p>	1 Set
4	<p><b>WORK ROOM:</b> To finish off the training, an exercise room to be installed with following work equipment</p>	
4.1	<p><b>Endless Ladder</b> Desired specifications are: Frame :Welded Tubular Steel Weight :260 lb. Size :H:65.5" / W:31.25"/ L:76" Power : 115 V /AC / 5 Watts (computer)</p>	1 Nos
4.2	<p><b>Treadmill</b> Desired specifications are: Belt Speed: 0~16Km (Opt 20 Km) Motor : 3 HP AC motor Walking Area : 580mm x 1700mm Power Incline : 0~10% (Opt 20%) User Capacity : 240 Kg Power Dedicated : 230V, 50 Hz 15A, 1Ø Floor Space (approx.) 2240mm x 940mm(88" x 37")</p>	1 Nos
4.3	<p><b>Stationary bicycle</b> Desired specifications are: Digital Display which shows time, speed, calorie count, pulse rate etc.</p>	1 Nos
5.1	<p><b>General lighting system</b> Required to supply 28 watt of tube light in training and control room area</p>	8 Nos



**TENDER CALL NOTICE NO.-3/2020-21.  
DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

	5.2	<b>Ventilation fan</b> Ceiling fan at control room	2 Nos
	5.3	Air conditioning unit (split Ac) Suitable 1.5-ton air conditioning unit	
	5.4	Detailed design and drawings of all the above work are to be made after getting order .	
	5.5	Refer Plan Drawing	
6		<b>SITE REQUIREMENT TO BE PROVIDED BY ODISHA FIRE SERVICES</b>	
	6.1	<b>ELECTRIC SUPPLY</b> Supply of 99HP standard electricity, 100 AMP, 440 VAC for control panel provide free electricity and water at the time of installation of BA gallery by the supplier.	Odisha fire service will supply
		<b>DOCUMENTATION AND TRAINING</b>	
		<b>Operation manual</b>	
		Manual shall be supplied containing the details of operating and maintenance procedure with proper layout diagrams	
		<b>Project Drawings</b>	
		General Arrangement - Final site layout shall be submitted with the offer.	
		<b>WARRANTY</b>	
		One year warranty shall be provided for all items supplied under the terms of this contract. This warranty period shall commence on the day immediately following that of the successful customer acceptance test.	

1	<b>CIVIL WORK :</b>	
	Existing GYM room used for B.A. training gallery with following modification A) All windows should broke out and make proper brick work and plaster with two coat plaster. B) Entire room should clean and refinished with proper Birla white Cement putty and painted as per standard oil base paint. C) Supply and Install good quality four numbers of light tight door as per drawing. D) Put Viewers window with at least 3 x 4 feet size window between Control room and training area. E) Control room should be making with proper masonry work/aluminum patrician room as per layout.	

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

	F) Window for control room. G) Work room is used as it is no changes made in work room. H) Floor should paint with black paint/black flooring. I) Fall ceiling at control room.	
2	Required civil work shall be carried out by the contractor as per the lay out attached.	

**N.B:** -

The OEM/ Authorized Agent during supply shall submit the execution of agreement for the work "Supply, Testing and Commissioning" of Installation of Modern Breathing Apparatus Training Gallery at OFDRA, Bhubaneswar including 5 (five) years comprehensive Annual Maintenance after expiry of initial 12 months warranty. The rate of Annual Maintenance Contract (AMC) will be as per the approval of Technical Committee basing on the quotation submitted by the OEM. If there is any change in the rate of service tax by the Government the same will be added/ deducted from the quoted amount.

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

**2. PLASMA CUTTER (FOR CUTTING ELECTRICALLY CONDUCTIVE MATERIALS INCLUDES STEEL, STAINLESS STEEL, ALUMINUM, BRASS AND COPPER ETC.).**

**I) AIR PLASMA CUTTING MACHINE.**

**1. Capability: -**

- 1.1 The machine shall be capable of carrying out all types of profile cutting without dross with plates of mild steel, carbon steel, galvanized steel, stainless steel, aluminum and other alloys.
- 1.2 The machine shall be capable of compressed air plasma cutting to severance cutting -29mm thick & pierce 12mm mild steel, carbon steel, aluminum and cast iron etc.

**2. Scope of supply: -**

- 2.1 The specification covers supply of Air Plasma cutting machine with hand torch (with rubberized wheel to withstand the carrying load of the machine).
- 2.2 The supply shall include all concomitant accessories/ equipment's as mentioned in specification and any other concomitant accessories/equipment, which the manufacturer considers essential to make the machine fully operational when installed and connected to power source and other utilities

**3. Concomitant Accessories: -**

- 3.1 The machine shall be accompanied by the concomitant accessories listed below whose cost shall be included in the basic price of the machine.
- 3.2 However, the cost of each items of concomitant accessories should also be given separately in the offer.
  - ◆ Hand cutting torch with torch cable of 15 meter length- 01 no.
  - ◆ Input copper cable for connecting power source to machine- 15m. 01 no
  - ◆ Air filter and Air Pressure Regulator built-in with machine- 1 No.
  - ◆ Air filtration kit (ready to install kit) with a one micron filter and auto drain moisture separator protects against contaminated air-1 no.
  - ◆ Detachable Work Piece Cable. 1 No
  - ◆ Operating Manual: Technical Literature along with circuit diagrams- 3 Sets.

**4. Consumable Spares: -**

- 4.1 Electrodes & Tip = 25 set each
- 4.2 Outer Nozzle = 25 Nos

(Any other consumables required may also be quoted) Any other concomitant accessories required to make the machine fully operational when connected to power source is also included in scope of supply.

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

**5. Details of Accessories required: -**

- 5.1 Electric Supply Cable (Length - 15 meter) to be attached with machine along with plug at another end.
- 5.2 Plasma Hand cutting Torch (Hose Package Length- 15 meter).- 1 No.
- 5.3 Consumable Kit
  - a) This kit should include at least one spare of each component of torch head, except body of torch head.
  - b) All required consumables for performing required applications.
- 5.4 Leather cutting Gloves:- 2 Sets.
- 5.5 Face shield helmet- 2 Nos

**II) CUTTING TORCH: -**

- 1.1 The torch should be air cooled type with air pre-flow and post- flow time control facility.
- 1.2 The torch shall be of light weight and flexible with approx 15-meter-long hose.
- 1.3 The torch handle should be insulated from live parts and provided adequate protection to operator's hand for overheating, without interfering cutting operation.
- 1.4 The torch construction will minimize lodging of dirt in joints and Current carrying capacity at 100% duty cycle is 100Amps.

**Specifications Plasma Cutter:-**

- i) Input Voltages : 415V $\pm$ 10%, 3-PH, 50-60 Hz
- ii) Input current : 100 Amps Cutting Load (100% Duty cycle) and 415 V  $\pm$ 10% Input supply
- iii) Output current : 30 - 100 Amps DC Cutting
- iv) Cutting Voltage : 120 -180 V DC
- v) Duty cycle : @40 ° C (104 O F) 100% Duty Cycle Current = 100 Amps for 415 V, 3 Ph Input Supply
- vi) Open circuit voltage : 275 - 280 V DC (OCV)
- vii) Dimensions with handles : 550mm D ; 300mm W ; 500 mm H
- viii) Weight : 40 Kg.
- ix) Torch Gas Supply : Air (clean, dry and oil free) Cutting
- x) Recommended : 188 I/min (400 scfh) @ 5,9 bar (90 psi) Gas inlet Flow rate / pressure
- xi) Input power cable : 15 Meter length

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

- xii) Power supply type : Inverter - IGBT  
Engine drive requirement 20 KVA / 16 KW for full 100 Amps output (with 415 V $\pm$ 10% 3 Phase generator)
- xiii) Electrical efficiency : 88 %
- xiv) Recyclability : 100 % Engine- driven generator operation
- xv) Engine drive rating : 16 KW 100 Amps  
System output current
- xvi) Minimum Cutting : 16 mm (5/8") 500mm/h  
Recommended
- xvii) Severance : 29mm (1-1/8" 125mm/h
- xviii) Pierce : 12mm (1/2")

**Note:**

- 1). The manufacturer should be ISO-9001, ISO-14001 & ISO-18001 Approved.
- 2). The manufacturer should have service back-up (Adequate service Engineer & spare parts availability)

The manufacturer should have certification of occupational health & safety management.

**III) 20 KVA DIESEL GENERATOR: -**

- Gen Set Output (KVA / KW): 20/ 16(min) compatible to plasma Cutter
- Max power KW (BHP) @ at rated speed, (RPM):19 (25) or more
- Engine Type: Natural Aspirated
- Governor: Type /Class of Governing: Mechanical/Electronic
- Air cleaner type: Dry
- Charging alternator Voltage / Current (DC):12V /35 Amps
- Battery Voltage (DC) / Capacity (AH):12V, 88AH or more

**Fuel System:**

- Recommended Fuel: HSD
- Fuel tank capacity (Ltr): 75 or more

**Generator:**

- Voltage: 415V AC  $\pm$  10%
- Frequency: 50Hz
- Current@0.8PF (Amps): 86/27 or more
- Type: 4 Pole, Rotating
- Unit- mounted water/coolant radiator ambient temperature ( $^{\circ}$ C):50(122 $^{\circ}$ F)
- Exciter Type: Brushless
- Voltage regulator: Solid State, volts
- Insulation: Class H,
- Coupling: Flexible disc, CLOSE COUPLED

**TENDER CALL NOTICE NO.-3/2020-21.**  
**DIRECTORATE GENERAL F.S., H.Gs & C.D., ODISHA, CUTTACK.**

**Standard scope of supply:**

- **Engine** with direct injection, water/ air- cooled engine, min 3 cylinder, in-line, 4 stroke, rated at 1500 RPM minimum, conforming to ISO 3046 / BS 5514 has the following Specification

**Alternator:** Crompton Greaves/ Stamford/ equivalent

- **Acoustic enclosure**-Engine alternator assembly mounted on AVM with Silencer and S.S exhaust bellow suitably optimized to meet stringent sound & emission standards as laid down by MOEF / CPCB
- **Power cables:** copper conductor cables between Alternator & Control panel inside the canopy.

**Literature:**

- Operation Manual
- General maintenance & installation Guideline
- Parts manual

**IV) AIR COMPRESSOR: -**

- Air compressor reputed make, conforming to BIS standard.
- Type Prime Mover: Electric Motor, 2.5 HP, (Compatible to plasma cutter)
- Input air 300 lpm
- Effective output air 190 lpm
- Sound level (LpA) : 85 dB(A)
- Maximum Pressure: 8bar (116PSI) with variable
- Tank Capacity: 50Lts
- Standard Equipment
- Gauge for tank pressure, Reset Button
- Pressure reducer with gauge
- Additional Handle, Rubber Grip Handle
- Accessories:
  1. Ball Valve (2 Nos)
  2. 15 Meter Air Hose with Foot Connector
  3. MCB for Air Compressor
  4. Compressor Oil

**N.B: -**

The OEM/ Authorized Agent during supply shall submit the execution of agreement for the work "Supply, Testing and Commissioning" of Plasma Cutter (for cutting electrically conductive materials includes steel, stainless steel, aluminum, brass and copper etc.) including 5 (five) years comprehensive Annual Maintenance after expiry of initial 12 months warranty. The rate of Annual Maintenance Contract (AMC) will be as per the approval of Technical Committee basing on the quotation submitted by the OEM. If there is any change in the rate of service tax by the Government the same will be added/ deducted from the quoted amount.

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