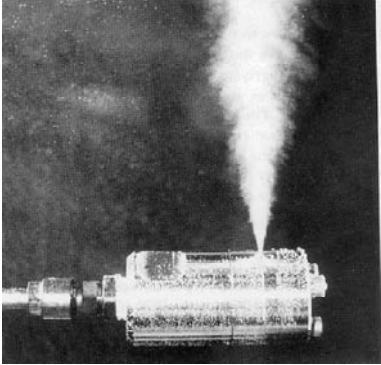


	<u>BHARAT HEAVY ELECTRICAL LIMITED</u>			Enquiry No. :		
	<u>UNIT'S ADDRESS:</u>			Due Date :		
	<u>UNIT'S PHONE NO.:</u>			Supplier Qtn. No.:		
	<u>MAIL</u> <u>(FROM PURCHASE DEPT.)</u>			Date :		
<u>SPECIFICATION CUM COMPLIANCE CERTIFICATION FOR</u>						
<u>SPECIAL INSTRUMENTS FOR NUCLEI INJECTION AND MEASUREMENT</u>						
	NOTE:-					
	<p>2. The "Offered" Column and where applicable, the "Deviations" & "Remarks" Column of this format shall be filled in by the Vendor and submitted along with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance.</p>					
	<p>3. The offer and all documents enclosed with offer should be in English language only.</p>					
ADDRESS OF THE SUPPLIER :						
TELEPHONE NOS.:						
FAX NOS.:						
E-MAIL ADDRESS :						

SCOPE: SPECIAL INSTRUMENTS FOR NUCLEI INJECTION AND MEASUREMENT AS SPECIFIED BELOW Quantity 1 set					
SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / TO BE CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
1.0	PURPOSE :				
1.1	Instrument/system for Injection of nuclei content in water during hydro turbine model cavitation test as per likely requirement to be included in upcoming revision of IEC60193.This system is to be commissioned at Hydro Turbine Model Laboratory BHEL Bhopal.	Vendor to confirm			
2.0	SCOPE OF SUPPLY AND SPECIFICATION				
2.1	<p>Complete Nuclei injection measurement system - 1 set</p> <p>A specific system for nuclei injection which is used for hydro turbine model testing as well as research purposes. It is based on modular stacked discs with thin radial opening. The pressure between two discs is set low enough to produce developed cavitation, which enhance nuclei production. The nuclei size ranges approximately from 10 to 100 μm. The flow rate of saturated water is adjusted by suitable method for example by the number of stacked nuclei injectors. The vendor has to design, manufacture, assemble, supply and commission the complete system including nuclei injectors, generators, the compressor (dedicated to nuclei injection system installed on separate trolley) and any other item required. The engineering design and the construction drawings of the nuclei generator are to be provided for maintenance and installation purpose. A testing procedure including document for estimation of nuclei content is to be given. A typical photo of nuclei injector is given below.</p>	Vendor to confirm suitability for Model Hydro Turbine			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / TO BE CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
					
2.2	Nuclei size range	Vendor to specify			
2.3	Method of adjustment of flow rate of saturated water	Vendor to specify			
2.4	Number of nuclei injectors required	Vendor to specify			
2.5	Location of nuclei Injector (refer Annexure-I). Vendor to check suitability or specify new location	Vendor to specify			
3.0	Inspection and Testing with installation instructions at Suppliers works				
3.1	The nuclei injection system will be inspected at suppliers Laboratory for checking and understanding major functional requirement and installation method by two BHEL Engineers at suppliers laboratory.	Vendor to Confirm			
4.0	Qualification				
4.1	Supplier should have supplied similar instrument/ system to some reputed Hydro Turbine/ Pump model testing laboratory or installed it in its own Hydro Turbine/ Pump model testing laboratory and is working satisfactorily for last one year.	Vendor to Confirm			
5.0	Commissioning				
5.1	Supplier has to commission the nuclei injection system at Hydro Laboratory BHEL Bhopal successfully.	Vendor to Confirm			
6.0	Documentation				
6.1	Two sets of Operation and maintenance manual are to be supplied alongwith the system.	Vendor to Confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / TO BE CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
		ANNEXURE-I			
		LOCATION OF NUCLEI INJECTION SYSTEM			