INDIAN INSTITUTE OF TROPICAL METEOROLOGY
PASHAN, PUNE-411008
(An Autonomous Body under the Ministry of Earth Sciences, Govt. of India)

CORRIGENDUM TO PUBLIC NOTIFICATION

Notification NO.: IITM/CAIPEEX-2012-2016/1

The date of submission of Request for Information (RFI) for HIRING A Research Aircraft without Instruments for CAIPEEX Operations for the Years 2014, 2015 & 2016 published vide Notification NO.: IITM/CAIPEEX-2012-2016/1 is hereby extended up to 12:00 hrs on 06 February 2013 and shall be opened on same day at 1500 hrs. Those who have earlier submitted the documents for this Notification need not submit again. Other terms & conditions shall remain unchanged. Please visit our website www.tropmet.res.in and CPP Portal: www.eprocure.gov.in for details.

Senior Technical Officer-II, For Director
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INDIAN INSTITUTE OF TROPICAL METEOROLOGY (IITM)
(An Autonomous Research Institute under the Ministry of Earth Sciences (MoES), Govt. of India)
Dr. HOMI BHABHA ROAD, PASHAN, PUNE-411 008, INDIA
Fax: +91-20-2586-5142 or email: vipin@tropmet.res.in

PUBLIC NOTIFICATION

No. IITM/CAIPEEX-2012-2016/1

GLOBAL REQUEST FOR INFORMATION FOR RESEARCH AIRCRAFT -
For CAIPEEX operations

Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road Pashan, Pune- 411 008 (India), an autonomous R&D institution under Ministry of Earth Sciences (Govt. of India) invites Request for Information (RFI) from reputed agencies/companies in the prescribed format for HIRING a research aircraft without instruments for the year 2014, 2015 and 2016. This is part of a research program where the institute is planning to collect research data on randomized cloud seeding and organized convective cloud clusters of monsoon during 2014 and to study the aerosol effect on convective clouds near Ganges Valley area during 2015-2016. The eligibility criteria and other details of the RFI can be downloaded from IITM website **www.tropmet.res.in** as well as Government of India's Central procurement Portal (CPP) **www.eprocure.gov.in**

1. The experience and capability of the agencies/companies should be provided in the prescribed format along with all the necessary supporting documents.

2. The offers for RFI sealed in a cover and super scribed "RFI FOR RESEARCH AIRCRAFT; for CAIPEEX operations DUE DATE: 6th February 2013 TIME 1200 hrs IST should reach DIRECTOR, IITM, Dr. HOMI BHABHA ROAD, PASHAN, PUNE-411 008, INDIA by the **due Date i.e. 6th February 2013; Time 1200 hrs (IST). The sealed envelopes will be opened the same day at 1500 hrs (IST). T**he sealed covers containing RFI not superscribed as above are liable to be ignored. For any clarifications/queries please contact through contact details provided above.

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Request for Information (RFI)

i) Aircraft Specification

The proposed aircraft should be a twin engine pressurized Turbo prop aircraft and is required to carry instrumentation, crew and scientists. The aircraft should have sufficient payload to carry all the instrumentation in addition to 2 pilots and 2 scientists (with instrument racks). Aircraft should also be equipped with hygroscopic flare racks for cloud seeding. Additional specifications that are required are given in Table 1.

Table 1. Aircraft Specifications

Requirement	**Minimum specification (at maximum gross weight)**
Crew	2 pilots + 2 scientists
Gross weight	> 10000 lbs
Payload	> 1000 lbs
Cabin Volume	>10 m^3
Minimum lowest operating altitude	500-1000 ft AMSL
Minimum highest operating altitude	25000 to 28000 ft AMSL with full load and full fuel
Cruising Speed	200 - 220 knots
Sampling Speed	80-120 m/s
Ascent rate	400 - 500 ft /min
Endurance	4 - 5 hours
Range	2000 km minimum
Special requirements	Air inlets, 2-3 instrument racks
Instruments	Certification for listed instrument inlets and related modifications
Research power	> 5kW at 28VDC > 2kW at 220VAC 60Hz > 1kW at 115VAC 60Hz
Icing conditions	Certified for flight into known icing conditions

Capability	To operate over land and ocean
Permits/MoU	Non-scheduled operator permit (NSOP) issued by competent civil aviation authority and MoU between civil aviation authority is required. Detailed information in this regard should be provided. Proper air worthiness certificate issued by a competent authority is required

(II) Crew requirements

The aircraft crews are required for the whole duration of the campaign and should consist of scientific, operational and engineering staff as follows:

- Two Pilots to fly the aircraft.
- One Aviation Maintenance Engineer with experience on proposed aircraft type.

(III) Mission specific requirements

- Aircraft crew should have participated in at least two major field campaigns.
- The proposed aircraft should be modified to carry at least 6 PMS canisters that are wing or fuselage mounted.
- Proposed aircraft should be modified to carry the hygroscopic flares for cloud seeding.
- Aircraft should be capable of flying over deep sea (up to 200 nm) with all necessary safety equipment onboard, including the lightning detector.

(IV) Aircraft -1 instrumentation requirements

Aerosol and cloud physics instrumentation from IITM as specified in the Table 2 will be used for the campaign. Aircraft is required to have inlets and certification for such installations of listed instruments.

Table 2: List of Instrumentation

VARIABLE	INSTRUMENT	RANGE	IITM owned or not
Air Data Probe	Aircraft Integrated Meteorological Measurement System (AIMMS-20, ADP, IMU, WAAS DGPS, CPM)		
Air temperature	Rosemount temperature	-50°C to +50°C	
Dew point temperature	Chilled mirror aircraft hygrometer	-40°C to +60°C	

Logging, telemetry & event markers from aircraft to base of operations	ESD DTS (GPS)		
Cloud droplet size distribution	Cloud Droplet Probe (CDP)	3 to 47 µm	
Cloud particle imaging and size distribution	Cloud Imaging Probe (CIP)	25 to 1550 µm	
Stereo cloud particle imaging and spectra	2DS probe	10 to 1280 µm	
Precipitation imaging and size distribution	Precipitation Imaging Probe (PIP)	100 to 6000 µm	
Liquid water content	Hotwire Liquid Water Content (LWC)	0 to 3 g/m^3	
Isokinetic aerosol inlet	Diffuser inlet installed in laminar flow outside of the aircraft boundary layer	> 20 lpm	
Nucleation mode aerosol spectrometer	High flow Differential Mobility Analyzer (DMA) or Ultra High Sensitivity Aerosol Spectrometer	0.01 to 0.5 µm	
Aerosol particles collection for physical and chemical analysis and for energy dispersive Xray spectrometer (EDS)/Scanning Electron Microscopy (SEM) or Transmission Electron Microscopy (TEM) measurements for size, morphology, hygroscopicity and mixing state, etc.	Cascade Impactors, for size resolved sampling		
Accumulation and coarse mode aerosol spectrometer	Passive Cavity Aerosol Spectrometer Probe (PCASP)	0.1 to 3 µm	
Cloud and aerosol		0.5 to 50 µm	

spectrometer			
Black carbon (BC) mass concentration, single scattering albedo, specifically to make high frequency measurements, provides accurate measurements of absorption from BC	Athelometer for BC Photo-accoustic extinctometer PAX		
Observations of CO, CO2, NO2, H2O, CH4	Gas analyzers (for CO, CO2, NO2, H2O, CH4) -CRDS based		
Short-wave irradiance, up &downwelling		285-2800 nm	
Long-wave irradiance, up &downwelling		4-50 μm	
Dropsonde	Optional		IMD
Data acquisition system			

REQUIRED IMPORTANT TECHNICAL PARAMETERS

1. Technical Information of Aircraft-

Sl No	Information Required	Vendor to [illegible]
(a)	Range with maximum take-off weight	Provide tech info
(b)	Payload capacity	Provide tech info
(c)	Capable of interfacing the instrument(s) data with the avionics suite – please describe the avionics systems to be interfaced.	Provide tech info

2. Logistical Support

Any other relevant info on capability of roles & additional facilities may also be specified