Consultancy Service
for
System Integrator (SI)

Procurement Category:	Consultant Services
Procurement Method:	Consultants Quality and Cost-based Selection (QCBS)
Contract Type:	Time Based
Market Approach:	Open – International Competitive

Terms of reference (ToRs)

Modernization of Hydromet Services of PMD in Pakistan (MHSP)

Integrated Flood Resilience and Adaptation Project (IFRAP)

(Component 2: Strengthening Hydromet and Climate Services)

Pakistan Meteorological Department (PMD)

Ministry of Aviation (Aviation Division)

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List of Acronyms and Abbreviations:

AWS	Automatic Weather Stations
CCDR	Country Climate Development Report
CDMS	Climate Data Management System
CDPC	Climate Data Processing Centre
CONOPS	Concept of Operations
EWS	Early Warning System
GoP	Government of Pakistan
HPC	High-Performance Computing
HWC	Hybrid Weather Computing
IFRAP	Integrated Flood Resilience and Adaptation Project
IMG	Institute of Meteorology & Geophysics
IT	Information Technology
MoPD&SI	Ministry of Planning Development and Special Initiatives
NFCS	National Framework for Climate Services
NMHS	National Meteorological and Hydrological Service
NWP	Numerical Weather Prediction
PIU	Project Implementation Unit
PMD	Pakistan Meteorological Department
QCBS	Quality and Cost-based Selection
RCDPC	Regional Climate Data Processing Centres
SI	System Integrator
ToR	Terms of Reference
WMO	World Meteorological Organization

1 Background

The recently published Country Climate Development Report (CCDR) shows Pakistan's high vulnerability to climate change is a risk multiplier, compounding its human and economic development challenges. The country consistently ranks among the top 10 countries worldwide most affected by climate change. Extreme weather events have increased in frequency and intensity, impacting people, ecosystems, and infrastructure. Heatwaves, heavy precipitation events, droughts, and cyclones are prevalent risks. Attribution research on the 2022 floods has shown that the five-day maximum average rainfall of Balochistan and neighboring Sindh was around 75 percent more intense than it would have had the climate not warmed by 1.2°C. Climate projections have been predicting such a shifting trend for years. Despite a history of other disasters such as earthquakes, heatwaves, and droughts, floods remain the dominant hazard. Most of the country's population lives along the Indus River system, which is prone to severe flooding during the monsoon season. In addition, Pakistan's climate vulnerability and uncertainty surrounding annual glacial melt, average precipitation, and extreme temperature changes highlight the need for ex-ante disaster preparedness and resilience building.

The Ministry of Planning, Development and Special Initiatives (MoPD&SI) has developed the Resilient Recovery, Rehabilitation and Reconstruction Framework (4RF) to guide the government's response to the 2022 floods based on the needs identified across the 17 sectors covered in the PDNA. The 4RF defines measures to ensure a resilient recovery and prevent multi-generational impacts that may manifest through reduced developmental gains. Through the 4RF, the Government of Pakistan (GoP) recognizes the importance of long-term resilience to flooding and is committed to consolidating ongoing efforts and undertaking new measures toward improved resilience. Considering the climatic vulnerability of the province, Balochistan could benefit from improved hydrometeorological (hydromet) and early warning services as well as disaster preparedness. The limited preparedness of the provincial disaster management system and the capacity limitations of national weather forecasting agencies regarding effective early warning dissemination resulted in significant loss of lives and damage to livelihoods and properties, which Balochistan province could have partially avoided.

The 4RF recognizes the need to strengthen the capability of the Pakistan Meteorological Department (PMD) to collect, understand, and use hydromet data to facilitate disaster early warning and risk-informed decision-making. This entailed finalization of IFRAP that responds to immediate emergency recovery needs in Balochistan province while contributing to building flood resilience in Pakistan. The project scope consists of the following components:

i. community infrastructure rehabilitation

ii. strengthening hydromet and climate services

iii. resilient housing reconstruction and restoration

iv. livelihood support and watershed management

v. project management, technical assistance, and institutional strengthening.

vi. Contingent emergency response

The component for strengthening hydromet and climatic services will improve the capability of the PMD to generate and utilize hydromet information for decision-making. Currently, the PMD has minimal coverage for the western part of the country, which includes much of Balochistan. This component will thus benefit not only Balochistan but also all of Pakistan by improving climate and flood forecasting capabilities, including early warning systems to mitigate the impacts of climate hazards, by expanding networks throughout the country with updated technological interventions.

2 Scope of the Project

The System Integrator (SI) shall be hired for the component-II of IFRAP i.e. "strengthening hydromet and climate services". The project is based upon two major components i. Modernization of Hydromet Services and ii. Institutional Strengthening & Capacity Building with the following details:

Modernization of Hydromet Services

- Procurement & Installation of 300 Automatic Weather Stations (AWS) including 50 AWS with Agromet Sensors.
- Procurement & Installation of 2-S Band Radars (Gwadar, Lahore), 2-C Band Radars (D.I Khan, Cherat) and 01-X Band Radar (Quetta).
- Civil Works relating to Radars' Towers, AWS installations & HPC Building etc.
- Procurement of 3-X Band Mobile Radars
- Procurement and implementation of Hybrid Weather Computing (HWC), integrating on-premises High-Performance Computing (HPC) with cloud-based resources, including ensemble-data assimilation.
- Developing National Framework for Climate Services (NFCS) for Pakistan
- Establishing video studios at Peshawar, Quetta and Gilgit
- Execution and implementation of Business model for sustainability enhancement of PMD service delivery

Institutional Strengthening & Capacity Building

- Upgrading of Institute of Meteorology & Geophysics (IMG), Karachi
- Upgrading the Climate Data Processing Centre (CDPC) by implementing a Climate Data Management System (CDMS) in accordance with WMO guidelines, and establishing Regional Climate Data Processing Centres (RCDPCs).
- Upgrading of Met. Workshop Karachi
- Upgrading Meteorological Observatories for full data automation
- Training /Capacity Building
- Enhancement of PMD service delivery

3 Implementing Agency

Pakistan Meteorological Department (PMD) is the implementing agency of the component-II of IFRAP i.e. “strengthening hydromet and climate services”. PMD is an executive department under Ministry of Aviation. The department is also a designated National Meteorological and Hydrological Service (NMHS) under the umbrella of World Meteorological Organization (WMO). PMD has primary responsibility for generating accurate and timely weather forecast and providing hydro-met and climate services in Pakistan. PMD’s main objectives are to provide meteorological services for aviation; public weather services; early warning services (cyclones, storms, floods, fog, heat waves, and drought); agro-meteorological services; climatological services; geophysical and seismic services; marine meteorological services.

PMD aims to transition from a data-oriented to a service-oriented organization, catering to diverse stakeholder information needs. Current weather forecasts and hydrological predictions provided by PMD (1-3 days, 3-5 days, and 24-hour forecasts) do not fully meet stakeholder requirements. Stakeholders seek more actionable forecasts, warnings, and impact-based information for short-term operations and long-term planning, improving preparedness and reducing vulnerability across sectors.

To enhance the value chain of hydromet services, PMD must strengthen every link, from observations to end-user decision making. This can be achieved by tailoring services to specific applications, expanding the reach of information products, and ensuring targeted delivery. Transforming PMD into a service-oriented department necessitates a new business model that prioritizes end-user needs and involves strategic partnerships with the private sector.

The proposed project should establish a robust foundation for PMD's transformation, including the development of a long-term strategic framework based on a theory of change. This framework will guide PMD's business, coordinate donor investments, and align with the National Framework for Climate Services (NFCS) and the Concept of Operations (CONOPS). Collaboration with stakeholder agencies as partners in the project and contributors to the strategic framework is crucial for success.

4. Objectives of Consultancy

The primary objective of the consultancy service is to assist PMD in effective implementation of the project through technological transformation and modernization of PMD’s core operations and services. The System Integrator (SI) Consultant will:

1. *Assess PMD’s current resources and capacity.*
2. *Develop a detailed technical design for modernization.*
3. *Prepare an implementation plan with technical specifications and tender documents.*
4. *Provide support during the implementation, procurement process, and systems integration.*

5. Scope of Work

The work of System Integrator (SI) would consist of:

a. To assess PMD's existing technical, operational, human, and financial and infrastructure resources and its capacity to provide weather and climate services to key stakeholders and the general population. The Consultant would prepare a detailed Work Schedule, listing the tasks and relevant schedule of task performance information and agree the detailed work program with Pakistan Meteorological Department's Project Implementation Unit (PMD-PIU). The Consultant will be required to develop sets of detailed technical documents on design and contents of the modernized system based on the Concept of Operation (CONOPS).

b. To design a system for the integration of existing meteorological equipment, including manual observation tools, Automatic Weather Systems (AWS), radars, rain gauges, etc., ensuring that current and future equipment is synchronized to enhance data management and data assimilation for modern weather forecasting.

c. The provision of implementation support to PMD in integrating different aspects of meteorological and hydrological observing network, forecasting and services in a modernized PMD.

d. To assist/support for the development of business model for PMD to provide better weather and climate services.

e. To ensure sustainability of the operations and services of PMD through capacity building and transfer of knowledge to PMD staff.

f. To assist PMD in procurements, contract management, monitoring and evaluation of the services relating to System Integration.

g. To assist PMD in monitoring the civil works relating to Radars, Automatic Weather Stations and installation of HPC.

6. Assignment Duration

The assignment shall start immediately after award of the contract and preferably will continue till 31st of December, 2028. The Team Leader of the consultancy firm shall be engaged on full time / regular basis till completion of the task.

7. Tasks with Deliverables

The tasks along with deliverables are outlined but not limited to the following. The System Integrator may start more than one task simultaneously keeping in view the requirements of the project implementation.

Task 1 Assessment of PMD status, preparation of detailed designs and complete implementation plan:

Deliverables:

1. Fundamental task of the System Integrator (SI) is the assessment of PMD's capacity, and to submit the assessment report of the existing system prior to start of other tasks.
2. In each assessment report the System Integrator shall identify the technological, Human Resource Capacity, funding stream and infrastructural gaps.
3. The System Integrator shall also submit an assessment report containing PMD's baseline capacity prior to start of the project, proposed CONOPs by the SI and post project assessment.
4. To prepare a detailed design along with an implementation plan.
5. To recommend and assist in institutional strengthening and capacity building of PMD.

Task 2: Support in procurements, contract management, monitoring & evaluation:

Deliverables:

1. To assist PMD-PIU in procurement, installation, operationalization and integration of high-tech equipment (AWS, Radars, Hybrid Weather Computing-HWC).
2. To assist PMD-PIU in contract management in the role of project manager (as prescribed in Standard Bidding/Contract Documents of the World Bank) of high-tech procurements and related consultancies.
3. To assist PMD-PIU in resolution of claims and issues relating to related contracts.
4. Onsite supervision of Installations, Networking and Data Communication as per contract, Design and budget
5. To assist PMD-PIU for the procurement and establishment of Climate Data Management System.
6. To assist PMD-PIU in Environmental and social safeguard standards, preparation, Implementations and reporting.

Task 3: Support in system integration and improving the effectiveness of Program implementation

Deliverables:

1. To provide technical support in implementation of data ingestion mechanism for handling real-time data from multiple sources. i.e. Automatic Weather Stations (AWS), Rain-gauges, Manual Observatories, Weather Surveillance Radars, Wind Profiler, Lightening Detection System, Satellite, Numerical Weather Prediction and Climate Models etc.
2. To assist in developing a data processing and analysis component capable of performing transformations, aggregations, and analyses on the stored data.
3. To provide support for a rich set of data processing operations, transformations, aggregations, and machine learning algorithms.
4. To provide technical support in devising a system that should be designed to scale horizontally to handle increasing data volumes and computational demands.
5. To assist PMD-PIU in developing data storage system with capability to integrate with various data storage systems, both distributed and traditional databases. To provide support for caching and optimizing data storage to minimize read and write latencies during processing.
6. To ensure that the system devised for integration is user friendly, durable, sustainable and secure.

Task 4 – Provide Operational Support to PMD in Weather Forecasting and Early Warning

Deliverables:

1. To provide support for the improvement of Weather, Flood, Agromet Forecasting System of PMD.
2. Support to upgrade the Flood Forecasting Division, National Weather Forecasting Centre, National Agor-Meteorological Centre and Climatic Data Processing Centre of PMD.
3. Support PMD with the ongoing development and implementation of impact-based forecasting system and risk-based forecasts and warning services
4. Assist PMD forecasters and numerical analysts in data assimilation for NWP (Numerical Weather Predictions).
5. To design the framework for a dedicated coastal observation system for Marine Weather Prediction.
6. Technical Assistance – Assist PMD's forecast operations and help in automation, product development through tailoring, application of Artificial Intelligence in improving weather forecasting and improvement of PMD system.

Task 5 – Provide Support to PMD in Service Delivery, which includes

Deliverables:

1. Assist PMD in implementation of NFCS as per WMO Step Step-by-step Guidelines
2. Assist PMD to establish and operate a service delivery platform and develop decision support tools for main users including finalizing the Concept of Operations based on the new working methods introduced during the project
3. To provide support for the establishment of business model of PMD for weather and climate services.
4. To improve the existing dissemination system of weather and climate information of PMD.
5. Assist PMD to maintain an up-to-date estimate of operating and maintenance costs.
6. To provide support for capacity building of PMD especially its human resource keeping in view the ongoing and upcoming developments.

Task 6 – Provide Consultancy Support to PMD in related Civil Works

Deliverables:

1. To provide consultancy support to PMD in civil works relating to Radars, Automatic Weather Stations and installation of HPC.
2. To ensure the quality of civil works relating to Radars, Automatic Weather Stations and installation of HPC.
3. To provide consultancy support in architectural designs of civil works relating to Radars, Automatic Weather Stations and installation of HWC.

8. Qualifications and Experience

a. General Requirements of Consultant

The consultant team must possess a minimum of 8 years of working experience in the hydro-meteorological sector. This experience requirement pertains to the professional experience of the experts within the team, focusing on their specific roles and contributions to hydro-meteorological projects.

The Consultant Team must demonstrate a minimum of 8 years of proven experience in the delivery and implementation of hydro-meteorological systems, particularly in developing countries. This experience should reflect not only theoretical consultancy but also practical, hands-on involvement in the development, delivery, and operationalization of hydro-meteorological systems (hardware and software). The team's references should include successful project completions where they have played a significant role in the practical aspects of system design, delivery, implementation, and post-implementation support. This emphasis on practical experience ensures the consultancy's capacity for both advisory and actionable contributions in the hydro-meteorological sector.

b. Indicative Team Composition

The technical team should be comprised of Meteorologists, Hydrologists, IT, and specialists in the development of meteorological and hydrological information systems to support the modernization of hydro-met services in Pakistan. The team will be expected to work closely with the Project Implementation Unit (PIU) staff of PMD and with other consultants with core expertise in meteorological and hydrological services. The following experts being essential requirements of the task must be part of the team with international experience. In addition to the following essential team, the System Integrator may hire local/ national technical experts on need basis.

i.Team Leader

The Team Leader must have at least 10 years of experience in Project Management, IT and international projects, with a proven track record of leading large-scale, multi-disciplinary teams. The candidate should have a strong background in leading projects within the hydro-meteorological sector, demonstrated by successful projects such as modernization of national meteorological services, flood and multi hazard early warning systems, not only at a national level, but also at a regional level, involving multiple countries.

The Team Leader is expected to have experience with the design and implementation of large-scale hydro-meteorological modernization projects including the development of hydro-meteorological observing systems, Message Switching Systems, Forecasting Systems and Early Warning Systems, at national level (one country) and regional level (multiple countries). The Consultant should also have experience with aeronautical meteorological services and decision support systems. Experience in operational NMHSs is desirable.

Proven experience in corporate management, strategic planning, and team leadership is essential. The candidate must have robust experience in managing IT and software integration projects, with a focus on environmental, aviation, and renewable energy sectors. The Team Leader should have experience in managing the development and the delivery of meteorological and hydrological systems in an international context. In- depth knowledge of the operation and management of National Meteorological and Hydrological Services and of the World Meteorological Organization's standards and procedures, operation of hydro-meteorological networks, early warning systems, information communication and technology, and the delivery of meteorological and hydrological services are essential. Both leading technical expertise and experience in procurement of large technical systems is essential. The Team Leader will be required to undertake frequent site missions in Pakistan, ensuring consistent on-ground presence and direct involvement in project activities throughout the project duration. He will also perform the role of the Project Manager as described in the Standard Contract Documents of the World Bank.

ii.Meteorological Observing Systems Expert

The expert should have a University degree in electronic/electrical engineering or meteorology, hydrology, atmospheric sciences, with a minimum of 10 years of experience in the operation of meteorological surface and remote observing systems and networks for applied meteorology, and climate applications. Experience in the operation and integration of hydromet observational networks would be an advantage. Experience with AWS (Automated Weather Stations), and knowledge of WMO (World Meteorological Organization) guidelines for meteorological observations are essential. The candidate should have contributed to at least two projects focusing on the upgrade of meteorological observing systems in a developing country context. Training skills and capacity building in hydromet observing systems (including data handling, transfer and management) will be preferred.

iii.Meteorological and Agro-met Forecasting Systems Expert

The meteorological forecasting expert should have MSc/MS degree in the field of meteorology, agro-meteorology, with a minimum of 10 years of experience in the meteorological and agro-met forecasting systems. Experience in the implementation of modern operational forecasting systems including global NWP and LAM, now-casting, very short-range forecasting and data assimilation techniques is essential. Expertise in Decision Support Systems is essential. Experience about preparation and development of area/crop-specific Climate Advisory Service (CAS) through modern/advance forecasting system for the farmers is essential. The expert should give solution/support for development of impact-based weather forecasting.

iv.Hydrological Forecasting Systems Expert

The specialist must have a University Degree in Hydrology or meteorology, with a minimum of 10 years of experience in hydrological and flood forecasting systems, including river basin modelling and flash/urban/coastal flood forecasting, and EWS. Good knowledge and understanding about hydromet observing system, GIS and data assimilation for NWP/Hydrological Modelling will be preferred. They should have worked on at least two projects involving the design and implementation of integrated hydrological monitoring and forecasting systems in regions with similar hydrological challenges as Pakistan.

v.Climate Information System Expert

Advanced degree in Meteorology, Agriculture, Climate Change, and Atmospheric Sciences, Environmental Sciences or other closely related field. At least 5 years of experience in the field of weather and climate services. Development of information products to strengthen existing weather and climate information system including sustainable provision of tailor-made climate information, products and services to key stakeholders. Knowledge of meteorological and hydrological data flows and international requirements for the exchange of data and the WMO Information System (WIS) is essential.

vi. ICT Expert - Instrumentation Networking and Decision Support Systems Expert

The ICT instrument systems expert should have Bachelors or Master's degree in Computer Science with minimum 10 years of experience in designing and integrating meteorological and hydrological instruments into network systems. Knowledge of forecasting workstations, workflows and telecommunication systems is essential. Experience in the development and use of decision support systems including the integration and use of GIS and multi-sectoral information is essential. Knowledge of meteorological and hydrological data flows and international requirements for the exchange of data and the WMO Information System (WIS) is essential.

vi.HWC (Hybrid Weather Computing) Expert

The expert should have a Bachelor's or Master's degree in Computer Science, Information Technology, or a related field, with specialized training or certification in Cloud Computing, HPC, or relevant ICT areas (e.g., CCNA, AWS Certified Solutions Architect, Certified HPC Professional). A minimum of 5 years of experience in ICT is required, with at least 2-3 years focused on hybrid computing environments that integrate on-premises and cloud-based solutions.

Hybrid Weather Computing (HWC) is an approach that combines the reliability of on-premises High-Performance Computing (HPC) with the scalability of cloud computing, allowing for dynamic scaling of resources based on weather forecasting needs.

The candidate must be technically skilled and proficient in Linux/Unix systems administration and managing data flows for weather and climate modeling. A deep understanding of hybrid computing architectures is essential, including parallel and distributed computing, as well as the seamless integration of on-premises HPC with cloud resources for dynamic scaling.

Experience with storage technologies, file systems (e.g., Lustre, GPFS), and data management in hybrid environments is crucial. The ideal candidate will have demonstrated the ability to design, lead, and manage complex HWC projects, including planning, execution, and monitoring, ensuring optimal performance and cost-efficiency through dynamic resource allocation between on-premises and cloud platforms.

vii.Radar Expert

The Radar expert should have University Degree in radar engineering, electronic, electrical engineering or relevant technology with a minimum of 10 years of experience in designing, installation, implementing, and maintaining weather surveillance radar systems, preferably in

developing country settings. They must have been involved in at least two projects involving the installation and operationalization of Doppler radar systems, with hands-on experience in training local staff on operation and maintenance. Form the 10 years of experience, the expert must possess 05 years operational experience with Doppler radars, working with various radars software and product generation and their interpretation. The specialist is required to provide training to the staff of PMD in the operation of the radar, and to install the capability for production of composite radar reflection and a mosaic radar map for the country.

viii.Marine Forecasting Expert

The Marine Forecasting Expert will be responsible for designing the framework for a dedicated coastal observation system for Marine Weather Prediction, with a focus on enhancing storm surge modeling monitoring water levels and BUOYs. The ideal candidate should hold a Bachelor's or Master's degree in Oceanography, Meteorology, or a related field, with specialized training in marine forecasting, coastal dynamics, or hydrodynamic modeling.

The candidate should have at least 7 years of experience in marine forecasting, with a proven track record in designing and implementing coastal observation systems. Expertise in storm surge modeling, tidal analysis, and water level monitoring is essential, as is proficiency in using and integrating marine observation technologies such as buoys, tide gauges, and remote sensing tools.

The Marine Forecasting Expert must have a deep understanding of the interactions between atmospheric and oceanic systems and how these affect coastal weather conditions. Experience in developing and validating models for predicting storm surges, sea level rise, and coastal flooding is critical. The candidate should also be familiar with the latest advancements in marine data assimilation, model coupling, and high-resolution forecasting.

ix.National Consultant/Expert for Civil Works

The National Consultant/Expert for Civil Works will be responsible for providing consultancy support to the Pakistan Meteorological Department (PMD) in monitoring civil works related to the installation of Radars, Automatic Weather Stations (AWS), and Hybrid Weather Computing (HWC) infrastructure. The expert should hold a Bachelor's or Master's degree in Civil Engineering, Architecture, or a related field, with at least 7 years of experience in overseeing civil engineering projects, particularly those involving meteorological infrastructure.

The candidate's key responsibilities include ensuring the quality and compliance of all civil works through regular site inspections, reviewing construction practices, and providing feedback to ensure alignment with design specifications and international standards. Additionally, the expert will offer consultancy support in the architectural design process, focusing on functional and safe infrastructure. Strong experience in monitoring similar projects is essential, along with the ability to effectively coordinate with various stakeholders throughout the project.

NOTE:

- *The System Integrator (SI) may engage other team members/consultants on need-basis and as per requirement of the scope of work, accordingly.*

- *To ensure the integrity and impartiality of the procurement process, the Consultant and its subsidiaries/affiliates shall be ineligible to participate in any subsequent tenders for the supply and delivery of systems, equipment, or services under this project.*

9. Reporting Requirements

In addition to, and consistent with, the reporting requirements associated with specific deliverables (Section 4), the Consultant shall provide the following reporting documents:

- Inception Report (3 month) to the Director General, PMD through Dy. Project Director.
- Regular (quarterly) Interim Reports to the Director General, PMD through Dy. Project Director.
- Final Report on Program performance and implementation results (as related to execution of the current *Terms of Reference*).

The Inception Report should contain the Consultant's Work Plan, detailed assignment of functions for the Consultant's personnel involved in the Component preparation and implementation, including any changes or additions agreed during negotiations prior to signing of the Contract and the proposed procedures for the Consultant's interactions with PMD. This Report must also clearly specify all risks and issues, which may negatively affect Project deadlines and effective execution of all works.

The Inception Report should be provided in 4 hard copies and in electronic format.

Regular (quarterly) Interim Report should include:

- Description of implementation progress in general, problems and measures to solve them;
- Detailed description of Consultant's executed work;
- Recommendations on organization of work for the next reporting period;
- Any deliverable reports completed within the reporting period;
- Interim reports shall be provided in hard copies and in electronic format.

Final performance and implementation results Report should be prepared based on deliverable documents developed during the implementation and will contain the description of results achieved during the implementation. Report on implementation results, technical specifications for the procurement packages shall be presented in hard copies and in electronic format.

Final Report on performance results should be prepared based on previous/quarterly reports, with analysis of execution and interrelation of individual sub-components under implementation. The report should be in English. This report must contain recommendations and substantiation of composition and contents of activities for further development of PMD including:

- General description of all executed work;

- Detailed description of Consultant's work performed during the Component implementation;
- Analysis of performed modernization and recommendations for future activities to ensure operational effectiveness and potential development of systems;
- A report on the Concept of Operations;
- Analytical Reports for each of the subcomponents, in accordance with Section 5 – Deliverables;
- Technical Design and the set of technical documents for integrated retrofitting of observation networks and technological systems;
- Technical specifications and bidding documents, prepared by any other consultant(s)/PIU for each subcomponent;
- Proposals on composition and contents of Component activities (including modification of the Procurement Plan);
- Implementation Plan for each of the sub-components;
- Program and proposed training Schedule for personnel, as related to the Implementation Plan.

All evaluation reports, draft reports and bidding documentation, related to execution of bidding procedures should use the standard documents published by the World Bank using the applicable procedures (technical requirements, technical specifications, bidding documentation packages, evaluation and other reports – as stated above (Section 9 – Reporting Requirements).

Final report should be provided in 10 hard copies and electronic format.

10. Endorsement and Approval of Reporting Documents and Final Reports

Endorsement and approval of Reporting documents, will be performed per the following procedure:

- All documents should be delivered as drafts and the Client will have 2 weeks to provide comment on the drafts, the final versions should be delivered within 2 weeks.
- The Dy. Project Director will review/recommend the Reporting documents within 3 weeks from submission of Reporting documents to the Client (Director General, PMD) for final endorsement/approval.
- The Dy. Project Director will review/recommend the Final Reports within 3 weeks from the submission of Final reports to the Client (Director General, PMD) for final endorsement/approval.

11. Evaluation Criteria

All of the proposals shall be evaluated by PMD-PIU teams. Initially the eligibility shall be adjudged on the basis of following criteria:

i. Whether consultancy service is registered and authorized to work internationally.

ii. Technical team experience of performing similar tasks as explained in Section-7

iii. Technical team profile as explained in Section-7

Proposals of the eligible firms shall further be evaluated as per the ToRs.

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