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## **SECTION I**

### **BACKGROUND AND SCOPE**

#### **Background**

1. The Ministry of Defence has contracted with Alcock Ashdown (Gujarat) Ltd (AAGL), the supply and commissioning of Six Survey Vessels by indigenous construction. The project shall be operated and managed by the Directorate of Ship Production, Integrated Headquarters of the Ministry of Defence (IHQ-MoD(N) / DSP).

2. As in the case with all ship building contracts, this project is a complex, multi-disciplinary effort involving multiple stake-holders. These include primarily the ship-builder, AAGL, along with their design agency, the ship-building classification society, the material and equipment suppliers, the sub-contractors and other support agencies hired by AAGL. The stake holders also include DSP and other professional directorates at IHQ-MoD(N), the Warship Overseeing Team (WOT) of IHQ-MoD(N) and the various departments in the Ministry of Defence.

3. In view of the above, a high level of multi layered, proactive project management mechanism is being set up to ensure that the earlier problems of time and cost over-runs are not re-visited. The primary features of the Project Management Solution (PMS) envisaged are as follows : -

- (a) Enterprise Project Monitoring using a Commercial Off the Shelf (COTS) enterprise software tools
- (b) On line web based project monitoring, drawing approvals, online alerts, status reports, project analysis, trouble-shooting etc.
- (c) Turn Key maintenance, administration and project analysis support by the PMS provider.

#### **Broad Scope**

4. The broad scope of supply and work for the PMS required for the IHQ-MoD (N) / DSP is as follows :-

- (a) Project planning, monitoring and analysis support to the Project Manager (PM) of DSP and WOT.
- (b) Manage the projects as a collective portfolio of sub-projects, tasks, resources, supply etc. for better decision-making using an advanced Enterprise Project Management tool e.g Primavera, Microsoft Office Enterprise Project.
- (c) Facilitate improved project team communication by having a system wherein all Project stakeholders have access to up-to-date information and can communicate within the system. This would be using a web based design, with on-line connectivity for data, voice and video.
- (d) Supply of required software and hardware and other IT infrastructure.

- (e) Maintenance, administration and support of the PMS.

## SECTION II

### PMS FRAMEWORK & IMPLEMENTATION REQUIREMENTS

#### Contract

1. The Ministry of Defence has contracted with Alcock Ashdown (Gujarat) Ltd (AAGL), the supply and commissioning of Six Survey Vessels by indigenous construction. The project shall be operated and managed by the Directorate of Ship Production, Integrated Headquarters of the Ministry of Defence (IHQ-MoD(N) / DSP).

2. The contract was signed in end-Dec 06. The total project duration shall be 39 months. Therefore, the PMS is envisaged to be set up as per the following schedule :-

(a) PMS set-up : within 30 days of conclusion of the PMS contract.

(b) Mapping of the Project schedule onto the PMS tool and Project base-lining : within 30 days of conclusion of the PMS contract.

3. The agencies involved in the ship-building activity and who will use the PMS are as follows :-

(a) PM at IHQ-MoD(N). The Project Manager (PM) is based at the IHQ-MoD(N) in the Directorate of Ship Production (DSP). IHQ-MoD is located in Sena Bhavan at New Delhi. The PM shall have unrestricted access to the entire PMS. The PM shall be the overall decision making authority of the PMS. The PM shall be responsible to obtain necessary approvals for the project, tasks etc.

(b) Reviewing Authorities (RA). The project would be reviewed by 02 senior officers at IHQ-MoD(N). They shall have viewing status and be able to review the project. Changes to the project shall be effected by the RAs through the PM.

(c) Team Members. Team Members (02 nos) are based at the IHQ-MoD(N) in the Directorate of Ship Production (DSP). They shall have access to the assigned portion of the PMS. Their primarily role is documents and drawings scrutiny and approval.

(d) WOT. The Warship Overseeing Team (WOT) shall be based in Bhavnagar in the premises of the shipyard. They shall also have a site office at Chanch, which is about 130 kms from Bhavnagar. This WOT is the local representative of the PM and the staff of WOT shall be the local team members. The WOT shall use the PMS on a daily basis. The WOT shall have 02 PMS users. Their rights shall extend to all scheduling, production management, quality control scheduling and updating of the PMS. Ensuring updating of the PMS shall be the responsibility of the WOT.

(e) Shipyard. The shipyard, AAGL, is the agency which shall design, build and supply the six survey vessels. AAGL is therefore a very important member of the PMS team. AAGL shall have 02 users with use and rights

similar to the WOT. AAGL is located in the Old Port area of Bhavnagar and Chanch. The ships shall partly be built in Bhavnagar and partly in Chanch.

(f) Professional Directorates. The professional directorates at IHQ-MoD(N) are not directly involved in the PMS. Their role is restricted to drawing and documents scrutiny and approval. Their rights shall be accordingly limited to access to documents and drawings and communicate with other PMS users. No connectivity is envisaged as part of the PMS. They will receive and send drawings and documents on line using their own infrastructure.

(g) Classification Society (CS). The role of the CS shall be similar to the Professional Directorates of IHQ-MoD(N). However, they will not have access to the PMS. No connectivity is also envisaged as part of the PMS. They will receive and send drawings and documents on line using their own infrastructure.

4. The technical requirements of the various components of the PMS are spelt out in Section III.

5. The Enterprise PMS software tool shall provide the following :-

(a) Tight coordination and standardization between all members and the projects and project manager.

(b) High level of resource management and higher-level reporting.

(c) Enable all members to work together to manage projects and processes effectively.

(d) Delivers tools that enable the project manager and team members to make well-informed decisions, optimize resources and establish repeatable processes.

(e) Improve decision-making by managing all tasks and sub-projects as a single portfolio.

(f) Optimize resources with tools that make it easy to assign the right person to the right task.

(g) Achieve a sustainable competitive advantage by streamlining project management and improving project performance.

(h) Improve productivity by strengthening collaboration across the enterprise.

(i) High level of online real time project management.

(j) Improve project success rate and implementing standard practices.

(k) Better visibility into project status

- (l) Tighter change control
- (m) Higher Return On Investment (ROI)
- (n) Fewer failures
- (o) Projects completed on time and within budget
- (p) Effective risk management
- (q) High level of management of external partners
- (r) Active mentoring and organizational change support to help users adjust to new processes

6. The PMS shall be scalable for more projects at a subsequent date if so desired by IHQ-MoD(N).

7. The PMS shall be capable of being integrated to the ERP system of the shipyard at a subsequent date if so desired by IHQ-MoD(N).

### **SECTION III**

#### **STATEMENT OF TECHNICAL REQUIREMENTS FOR DELIVERABLES**

##### **General**

1. The PMS shall be established and managed on a turn-key basis. This shall include the following :-

- (a) **PMO Setup.** Setting up of the Project Management Office (PMO).
- (b) **Operational Support.** Project planning, monitoring and analysis support to the Project Manager (PM) of DSP.
- (c) **Infrastructure.** Supply and commissioning of the required software and hard-ware.
- (d) **Connectivity.** Providing dedicated on-line connectivity for data, voice and video.
- (e) **Training.** Providing structured as well as on job training to the PM and other users.
- (f) **Maintenance and administration of the PMS.** Providing turn-key maintenance support and system administration for the entire project duration.

##### **PMO Setup**

2. The scope of work for the PMO setup shall be as follows :-

- (a) Assess the project requirement
- (b) Undertake Infrastructure Design for the PMO and submit a requirement document for approval of PM. This shall include software, hardware and connectivity elements.
- (c) Configuring and deployment of the Infrastructure for the PMO after approval of the design by the PM. This shall include the following :-
  - (i) Installation of hardware and software.
  - (ii) Installation of advanced Enterprise Project Management tool e.g Primavera, Microsoft Office Enterprise Project or equivalent.
  - (iii) Installation of connectivity.
- (d) Identify stake-holders, resources, information requirements, supply, etc.
- (e) Preparation of the project work plan, Work Breakdown Structure (WBS), Enterprise Project Structure (EPS), activity planning, resource allocation, scheduling. These activities shall be carried out to assist and advise

the PM and in consultation with the shipyard project team, DSP project team, sub-contractors, classification society etc.

(f) Mapping of the Project Plan onto the Enterprise Project Management tool (e.g Primavera, Microsoft Office Enterprise Project or equivalent) and deployment of the PMS.

(g) Assist in the development of work plans for implementation of activities relating to the project management.

### **Operational Support**

3. The PMS shall provide the following Operational Support to the PM during the entire duration of the project :-

(a) Overall management of the PMS. The PMS provider shall position a team of adequate professionals at Bhavnagar, full time, to manage the PMS. The PMS local team at Bhavnagar shall be responsible to update the PMS at AAGL and WOT as advised by the PMS team members in AAGL and WOT. They shall also assist and advise the PMS team members in AAGL and WOT, full time, during the entire duration of the project.

(b) The PMS provider shall also advise and assist the PM to manage the project using the PMS. (limited a maximum of 250 mandays spread over a maximum of 500 sessions) in a year.

(c) Tracking of resource deployment and management of resources. This shall utilize the following :-

(i) Resource breakdown structure hierarchy and chart.

(ii) Variable resource limits and cost over period of time.

(iii) Resource assignments and expenses by activity.

(iv) Cost account designation for resource assignments and expenses.

(v) Actual and Material resources.

(vi) Calculation of total units, costs, and expenses.

(d) **Scheduling Management**. The PMS involves directing progress, directing actions, controlling results and conserving resources. It also serves as the basis for monitoring and controlling project activity. The Enterprise Project Management basic approach is to form a network of activity and event relationships that graphically represent the sequential relations between the tasks in a project. Tasks that must precede or follow other tasks are then clearly identified, in time as well as function.

(e) Tracking of documents and drawings.

(f) Manage project correspondence.

- (g) Validating issues with the PM.
- (h) Recommend resolutions to issue conflicts.
- (i) Identify risks and advise on risk management.
- (j) Active mentoring and organizational change support to help users adjust to new processes.
- (k) Consistent reporting and analysis of project information for strategic decision making.
- (l) Troubleshoot and advise on corrective and preventive actions.

### **Infrastructure**

4. The PMS infrastructure shall comprise of the enterprise software along with necessary associated software (database etc), the operating system and hardware. The requirements are spelt out in the following paragraphs in this sub-section.

5. **Enterprise software.** The PMS shall be capable of the following : -

- (a) Project planning, monitoring and control.
- (b) Create plans that reflect realistic schedules, resource requirements, and budgets.
- (c) Evaluate project status and quickly identify at-risk and underperforming projects using roll-up scorecard reports that graphically display key business metrics.
- (d) Gain a deeper level of project governance and control through project performance, issue, and risk tracking capabilities
- (e) Gain insight into the performance of your overall project portfolio by identifying trends and problem areas using powerful analysis tools.
- (f) Understand the impact of trade-offs and evaluate strategies to mitigate risk using what-if scenario modeling features.
- (g) Provide advanced level of resource management capabilities for achieving the greatest return on investment.
- (h) Assess resource efficiency and activity across sub-projects and tasks by accurately and consistently tracking resource use and workload.
- (i) Facility to assemble high-performing project teams using staffing tools for optimal resource allocation.
- (j) Determine hiring needs by forecasting short- and long-term resource capacity and project demands.

- (k) Achieve organization-wide compliance across stake-holders and greater efficiencies in project delivery by capturing and deploying best practices and continually improving processes.
- (l) Facilitate improved project team communication by having a system wherein all Project stakeholders have access to up-to-date information and can communicate within the system.
- (m) Empower managers and project teams to make timely, informed decisions by giving them Web-based access to real-time critical project data.
- (n) Increase participation in the project management process by enabling team members to easily manage, track, and report on their project activities through familiar tools, like the Web and e-mail.
- (o) Realize greater accountability through a central tracking system that enables project teams to record, assign, and resolve issues.
- (p) Gain higher quality and efficiency by jointly developing and organizing project-related deliverables using a central document repository with version and editing control.
- (q) To ensure that all documents and communications are held along with project, sub project and activities.
- (r) To capture learning in Knowledge management system including project implementation methodology, closure reports, documents, manuals etc. and use the same in the future projects.
- (s) Track performance of sub-contractors and other vendors.
- (t) The scheduling management requirements that the PMS shall provide are as follows :-
  - (i) Ability to insert projects within projects and link together or work separately.
  - (ii) Reminders that tasks are going over scheduled time.
  - (iii) Ability to set multiple baselines.
  - (iv) Ability to protect the baselines.
  - (v) Flexibility to make changes per permission.
  - (vi) Status of projects in colour code depending on if project is on time, over schedule.
  - (vii) Ability to identify slippage
  - (viii) Track and sort by the PM, by description, by baseline dates, by forecast dates, by actual dates, by vendor/contractor, by project, by

milestone, by cost or schedule variances, in real time and current status.

(ix) Create a view for each sub-project or tasks, showing its current status with respect to due date and budget.

(x) Create view for latest Monthly Projects Report.

(xi) Ability to categorize sub-projects or tasks (by duration, cost, man-days, beneficiary area, IT Department & Section, criticality, etc...)

(xii) Multiple views of projects.

(xiii) Default view to own projects (project managers can see their own projects, not everyone).

(xiv) Update own projects.

(xv) Only project managers are able to update dates.

(xvi) Drill down query capabilities to view projects.

(xvii) Project Base-lining.

(xviii) Department & Section managers can view all projects assigned to staff members reporting to them (create, update, and read access).

(xix) View all projects for which project interdependencies exist for projects under their control.

(xx) Report generation (canned and custom).

(xxi) Provide a high-level summary of the projects showing key milestone dates with a planned and actual column and organization responsible for that project.

(xxii) The ability to drill down to milestones or activities when more data is needed about a project. The milestones or activities would indicate the specific person or group responsible for them.

(u) Reporting Management. The PMS shall contain a project management reporting tool, the project team shall be able to create new reports, or modify existing reports. The team shall also be able to take advantage of the tool screen layouts and tracking views for instant production of Gantt, PERT, WBS chart, and bar chart. These specific tools shall emphasize the important deadlines, specific tasks, important resources, and grouping options. This tool shall also provide a regular narrative reporting at various levels of the project. It shall concentrate on interpreting information gathered on the project in terms of its meaning for the project as a whole. The reporting management requirements shall include the following :-

(i) Publishes as HTML

- (ii) Planned versus actual variances
- (iii) Managers should be able to generate reports for all sub-projects or tasks for which they are responsible.
- (iv) Ability to automatically send e-mail to staff members when a new task is assigned to them. E-mail will let them know what the task is and its duration.
- (v) Keep track of documents (have links so they can be easily accessed, within versioning).
- (vi) The ability to get status reports.
- (vii) Ability to monitor project changes and send email notification to impacted stakeholders, based upon specific trigger points within a project or between different projects.
- (viii) Ability for Web-based and/or client access.
- (ix) High level summary of the projects showing key milestone dates with a planned and actual column and organization responsible for the project.
- (x) An agreed upon template should be used to standardize the project inputs so that they fit into the centralized database without conflicts.

(v) Cost Management. The PMS tool should help forecast what resources the project will require, the required quantity of each, when they will be needed, and how much they will cost. The Project Management Costing Tool of the PMS tool shall provide the capabilities of using the following tools – Budgets, Scheduling Tools, and Cost and Schedule Control.

(w) Project Issues Tracking. Issues shall be categorized and attached to projects level using the standards PMS Issues Tracking tool or feature.

(x) Project Documents Repository. Project Server interface entry to the documents library will be through the Documents module via Project Server Web Access. Where a list of projects is displayed, users then click on a project name to enter the project's documents libraries list. Within each document library a list of documents will be presented to the user, this list annuls the need to manually maintain a Project Documents Index.

6. Hardware and Software Requirements. The hardware and software requirements are as follows :-

(a) General Guidelines. The specifications contained in this document take into account the prevalent regulations on the info-security issues. Accordingly following factors shall be taken into account for the hardware:-

(i) **CD/DVD writers.** No internal CD /DVD writers are to be part of the configuration. Only external CD/DVD are to be provided.

(ii) **Internal Modems.** Wherever feasible machines with internal modem are not to be supplied. In case the modem is configured on the motherboard itself the same is to be disabled prior to machine being exploited.

(iii) **USB ports.** PCs should have at least 4 USB ports of which two should be on the front panel of the CPU.

(iv) Blue tooth and Wi-fi features are not to be present or provided. If such features are integral part of the machine the same are to be disabled prior to exploitation of the machine.

(v) **Replacement of Defective Hard Disks during Warranty.** During warranty period, defective hard disks shall not to be returned to the PMS provider who has supplied the hardware. Instead, free replacement of defective hard disk(s), without its exchange shall be ensured when necessary.

(b) **Hardware**

(i) **Servers.** 01 Server and 01 backup server with following minimum configuration : -

<b>Processor</b>	Dual Core Intel Xeon Processor 5100 Series with EM64T (2.0 Ghz, 4 MB L2 Cache, 1333 Mhz FSB) or better
<b>Chipset</b>	Intel 5000 Series on intel or equivalent OEM motherboard or better
<b>Memory</b>	2 GB DDR 2 RAM with ECC@533 Mhz upgradeable to 12 GB or higher
<b>Hard disk Drive</b>	3X144 GB@ 10000 rpm Ultra SCSI/SAS Hot Pluggable
<b>FDD</b>	1.44" FDD
<b>Keyboard</b>	104 Keys membrane keyboard (OEM Make)
<b>Mouse</b>	2 Button USB Optical Mouse with Scroll (OEM Make)
<b>DVD Drive</b>	16X DVD ROM
<b>Storage Controller</b>	SCSI /SAS RAID Controller of 128MB Cache for RAID 5 with Battery Back Up
<b>Back Up Device</b>	DAT 40 / 80GB DAT With Back Up Software for scheduled Managed Back Up & Disaster Recovery
<b>Monitor</b>	17" Color TFT/LCD Monitor (OEM Make)
<b>Bays</b>	Minimum 6 internal
<b>I/O Expansion Slots</b>	2 PCI X and 2 PCI Express
<b>Ports</b>	6(2 Front, 4 Rear),2 Serial, 1 Parallel, PS/2 Mouse

	and Keyboard
<b>Networking</b>	Dual LAN 10/100/1000 Network Card with Asset Tracking & Security management, Remote Wake Up
<b>Graphics</b>	Onboard 16 MB Dynamic Video Memory or Higher
<b>Audio</b>	Integrated Audio
<b>Power Management</b>	Energy star qualified, Screen Blanking, Hard Disk and System Idle Mode in Power On, Set up Password, Power supply SMPS Surge protected.
<b>Management</b>	OEM's own Manageability software with Asset management over LAN & WAN, Health Monitoring and Management Features
<b>Warranty</b>	On site warranty for the entire PMS duration from the date of commissioning
<b>Operating System</b>	MS Windows 2003 Server Enterprise R2 Edition(64 Bit system) or above preloaded with media and documentation and certificate of authenticity
<b>Antivirus</b>	Norton/Mcafee/etrust/Trend Micro (latest version)with support for the entire PMS duration
<b>Additional Software</b>	MS Office 2003/2007 /Star Office Professional with Media, documentation and certificate of authenticity.
<b>Additional Features</b>	Redundant Fan and Power supply

(ii) Laptops. 02 laptops shall be provided, one each to the PM at IHQ-MOD(N) and WOT, with the following minimum configuration :-

<b>Processor</b>	Intel Core 2 Duo (2.33 GHz, 667 Mhz FSB, 4 MB L2 Cache) or better
<b>Chipset</b>	Mobile Intel 945 GM, PM , Express Chipsets with ICH7M on OEM Motherboard or better
<b>Memory</b>	1 GB DDR2 SDRAM @ 667 Mhz dual channel shared upgradeable to 2 GB or more
<b>Hard disk Drive</b>	80 GB @ 7200 rpm
<b>Keyboard</b>	Full Size 88 keys with Synaptic touch pad
<b>DVD Drive</b>	16X DVD ROM
<b>Monitor</b>	14.1" WXGA TFT Active Matrix Display (1280X800 resolution)
<b>Expansion Ports</b>	2 USB, Gigabit Ethernet Card, RGB or S-Video or VGA, SD slot, PCI MCI slot, Connector for port replicator/ Docking Station and Travel Battery, microphone, stereo head phone and other standard features.
<b>Graphics</b>	Intel GMA 950, Video memory 128 MB shared or better
<b>Audio</b>	Integrated Audio
<b>Power Supply</b>	230V, 50 Hz AC Supply with Rechargeable Battery Pack Comprising of Li-Ion Batteries suitable for 4 hours or higher operation complete with battery charger/adaptor

<b>Carry case</b>	To be provided
<b>Management</b>	OEM's own Manageability software
<b>Warranty</b>	On site warranty for three years from the date of commissioning
<b>Operating System</b>	Windows XP (professional) /Vista preloaded with media and documentation and certificate of authenticity
<b>Antivirus</b>	Norton/Mcaffe/etrust/Trend Micro with one year support
<b>Additional Software</b>	MS Office 2003/2007 /Star Office Professional with Media, documentation and certificate of authenticity.

(iii) Workstations. 04 workstations (02 for site office at Bhavnagar / Chanch and 02 workstations for draughtsmen at IHQ-Mod(N)) with following minimum configuration :-

<b>Processor</b>	Pentium D Dual Core Processor (3.0 Ghz, 2X2 MB L2 Cache, 800 Mhz or better)
<b>Chipset</b>	Intel 945 G on Intel/ equivalent OEM Motherboard or better
<b>Memory</b>	1 GB DDR 2 RAM @400/533 Mhz upgradeable to 4 GB
<b>Harddisk Drive</b>	160 GB SATA @ 7200 rpm
<b>FDD</b>	1.44" FDD
<b>Keyboard</b>	104 Keys membrane keyboard (OEM Make)
<b>Mouse</b>	2 Button USB Optical Mouse with Scroll (OEM Make)
<b>DVD Drive</b>	16X DVD ROM
<b>Monitor</b>	24" Color wide TFT/LCD Monitor (OEM Make)
<b>Bays</b>	2X5.25" External, 2X3.5"External,2X3.5"Internal
<b>I/O Expansion Slots</b>	2 PCI X and 1 PCI Express
<b>Ports</b>	6(2 Front, 4 Rear),2 Serial, 1 Parallel, PS/2 Mouse and Keyboard
<b>Networking</b>	10/100/1000 on board integrated Network Port with remote booting facility
<b>Graphics</b>	Integrated intel GMA 900 graphics through DVMT
<b>Audio</b>	Integrated Audio
<b>Power Management</b>	Energy star qualified, Screen Blanking, Hard Disk and System Idle Mode in Power On, Set up Password, Power supply SMPS Surge protected.
<b>DMI</b>	DMI 2.0 Compliance and Support.
<b>Management</b>	OEM's own Manageability software with Asset management over LAN & WAN, Health Monitoring and Management Features
<b>Warranty</b>	On site warranty for three years from the date of commissioning
<b>Operating System</b>	Windows XP (professional) /Vista preloaded with media and documentation and certificate of authenticity
<b>Antivirus</b>	Norton/Mcaffe/etrust/Trend Micro with one year support

<b>Additional Software</b>	MS Office 2003/2007 /Star Office Professional with Media, documentation and certificate of authenticity.
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(iv) UPS for Workstations. Each of the above workstations is to be provided with a dedicated UPS of the following minimum configuration :-

<b>Rating</b>	650VA, Input 230V/ Output 230V
<b>General Features</b>	Automatic Voltage Regulation (AVR), Over voltage Protection.
<b>Battery type</b>	Maintenance-free sealed Lead-Acid battery
<b>Typical backup time</b>	20 minutes minimum

(v) UPS for Server. The servers are to be provided with on line UPS of the following minimum configuration :-

<b>Rating</b>	1000VA, Input 230V/ Output 230V, Interface Port DB-9 RS-232, USB
<b>General Features</b>	Advanced Battery Monitoring, Audible Alarms, Auto Diagnostic Testing, Automatic Voltage Regulation (AVR), Brownout correction, Hot Swap Batteries, Intelligent Battery Management, Lightning and Surge Protection, Line-interactive, Load Meter, Overload Indicator, Replace Batt Indicator, Status Indicator LED's, User Replaceable batteries.
<b>Typical backup time</b>	60 minutes minimum
<b>Battery type</b>	Maintenance Free Sealed Lead-Acid battery

(vi) Ink Jet Printers. Ink jet printers required are to be multifunctional with capability to print, scan, fax and copy. 02 such ink-jet printers are required for IHQ-MoD(N) and 01 for WOT. The minimum specifications are required :-

<b>Print technology</b>	Ink Jet
<b>Print speed (normal quality, A4)</b>	Up to 20 ppm in Black & Up to 13 ppm in Color

<b>Page yield footnote</b>	Based on 5% coverage, printing in normal mode on plain paper. All figures are approximate and quoted for A4 media.
<b>Auto-redialing</b>	Yes
<b>Scan type</b>	Flatbed scanner and ADF
<b>Optical scanning resolution</b>	Up to 1200 X 2400 dpi optical resolution/upto 48 bit colour scan.
<b>Auto document feeder capacity</b>	Standard, (50 sheets)
<b>Standard media sizes</b>	A4, A5, A6, B5
<b>Warranty</b>	One Year OEM Warranty from date of installation

(c) **Vide Conferencing Screens.** 02 in nos. LCD large screen displays (greater than 60”) for vide conferencing along with camera, modem, switches etc. One each at IHQ-MoD(N) and WOT at Bhavnagar.

(d) **Project Software**

(i) **PMS tool.** e.g Primavera, Mercury, Microsoft Office Enterprise Project or equivalent. This will include all associated software required for the PMS whose specifications and requirements are spelt out in this document. These shall include the operating systems, project servers, client modules, development kits, database servers along with accessories, collaboration servers, application servers, e-mail systems, web access requirements, internet-web-network-etc protocols, etc. along with accessories as applicable.

(ii) Licenses shall be provided as required for the PMS specification given in this document.

7. **Connectivity.** The connectivity requirements shall be as follows :-

(a) **Connectivity.** Connectivity (broadband) shall be provided over a “leased line” or a “virtual private network (VPN) with last mile on leased line” between the server at Bhavnagar and at IHQ-MoD(N) (02 users including the PM). Connectivity to the WOT at Bhavnagar (02 users) and the shipyard at Bhavnagar (01 user) would be by direct connectivity on fibre optic cable. Minimum Connectivity bandwidth shall be 02 MBPS for all users. Other users would not be provided connectivity and use their own internet connectivity to access the PMS. All authorised users would however be able to access the PMS using a broad-band subject to meeting the security requirements. The security for accessing the PMS shall be three levels. These three levels are user authentication by password, IP address and Machine authentication.

(b) **Videoconferencing.** Videoconferencing facility shall be provided over the leased line providing connectivity to IHQ-MoD(N) / DSP (02 users), the WOT at Bhavnagar(01 user). Video conferencing facility to the

shipyard/WOT local office at Chanch(01 user) would be over broad band of minimum bandwidth of 02 MBPS.

(c) **Voice.** IP cordless telephones using the above connectivity would also at IHQ-MoD(N) / DSP (03 users), the WOT at Bhavnagar(02 users) and the shipyard at Bhavnagar (03 users).

8. **Training.** The PMS provider shall arrange the following training : -

(a) 02 days training to the PM and other team members on using the PMS tool.

(b) On job training to the PM and other team members during the set-up period.

(c) Provide training literature and documentation.

9. **Maintenance and administration of the PMS.** The entire PMS shall be maintained and administered on a turn key basis by the PMS provider. This shall include all elements including the software, hardware, connectivity, accessories, software tool, value added services etc. The minimum down-time for the PMS shall not exceed 01 hour at a time. The minimum number of down-times for the PMS shall not exceed 12 in a year.

## **SECTION IV**

### **QUALIFICATIONS OF PMS PROVIDER**

1. The PMS provider shall be a reputed firm / company with core expertise in project management.
2. The PMS provider shall have successfully implemented at least 03 enterprise project management solutions.
3. The PMS provider shall employ project analysts who have at least 05 years experience in project management.
4. The project analysts shall be certified Project Management Institute Professionals or equivalent.
5. The project analysts of the PMS Provider should be be capable of the following : -
  - (a) Possess thorough knowledge of project management.
  - (b) Possess thorough knowledge of enterprise project management tools.
  - (c) Possess sufficient understanding of the ship-building process.
  - (d) Be able to advise and assist the PM in using the PMS.

## SECTION V

### COMPLIANCE TABLE

1. The PMS provider shall furnish a compliance table along with the technical bid in the format given below :-

Sl	Deliverables	Compliance Yes / No	Deviations if any
(a)	PMS set-up : within 30 days of conclusion of the PMS contract.		
(b)	Mapping of the Project schedule onto the PMS tool and Project base-lining : within 30 days of conclusion of the PMS contract.		
(c)	Compliance to Para 5 of Section II		
(d)	PMS shall be scalable for more projects at a subsequent date if so desired by IHQ-MoD(N).		
(e)	The PMS shall be capable of being integrated to the ERP system of the shipyard at a subsequent date if so desired by IHQ-MoD(N).		
(f)	Compliance to Para 2 of Section III		
(g)	Compliance to Para 3 of Section III		
(h)	Compliance to Para 5 of Section III		
(j)	Compliance to Para 2 of Section III		
(k)	Compliance to Para 6 (a) of Section III		
(l)	Compliance to Para 6 (b) (i) of Section III		
(m)	Compliance to Para 6 (b) (ii) of Section III		
(n)	Compliance to Para 6 (b) (iii) of Section III		
(p)	Compliance to Para 6 (b) (iv) of Section III		
(q)	Compliance to Para 6 (b) (v) of Section III		
(r)	Compliance to Para 6 (b) (vi) of Section III		
(s)	Compliance to Para 6 (c) of Section III		
(t)	Compliance to Para 6 (d)		
(u)	Compliance to Para 7 (a) of Section III		
(v)	Compliance to Para 7 (b) of Section III		
(w)	Compliance to Para 7 (c) of Section III		

(x)	Compliance to the training requirements at Para 8 of Section III		
(y)	Compliance to the maintenance and administration requirements at Para 9 of Section III		
(z)	Compliance to Section 4		

2. Non-submission of the above or submission of incomplete compliance table is likely to render the technical bid to be rejected.

**SECTION VI**

**COST DETAILS**

1. The break-up of the price shall be provided under the heads as given in the following table :-

Sl	Deliverable	Unit and Quantity	Unit Cost in Indian Rupees	Total Cost in Indian Rupees
1.	PMO Setup	Turn Key		
2.	Operational Support	Per month for 36 months		
3.	Infrastructure			
(a)	Software for Project Manager	01		
(b)	Software for Reviewing Authority (02), Team Members (02) /WOT (02)/ Shipyard (02)	08		
(c)	Software for Professional Directorates	03		
(d)	Software for Database	As required for the PMS		
(e)	Media CD ( if any)	As required for the PMS		
(f)	Documentation	03 sets		
(g)	Other software (If any)	As required for the hardware specified below		
(h)	Server and Back-up Server including accessories and associated software	02		
(j)	Laptop including accessories and associated software	02		

(k)	Work Stations including accessories and associated software	04		
(l)	UPS for work stations	04		
(m)	UPS for server	01		
(n)	Ink-Jet Printers	02		
(p)	LCD displays for video conferencing along with all accessories and software	02		
(q)	IP Telephones	08		
(r)	Others (As required for the PMS)			
4.	Connectivity			
(a)	One time installation cost (break up to be given separately)	Turn Key		
(b)	Recurring Cost	Quarterly rates, for 12 quarters		
(5)	Training	Turn Key		
(6)	Maintenance and administration of the PMS	Annual rates, for 12 quarters		
(7)	Other Costs (if any)			
Total Project Cost				

2. The payment schedule shall be linked to project milestones and commensurate with the physical progress of the PMS.