



PROJECT MANAGEMENT



Issue 1

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This specification is considered generic. The final configuration could be different than that described herein.

In accordance with the HPI policy of continuous improvement, details contained within this publication may change without notice.

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1.0 COMPANY ORGANIZATION

HPI Inc.'s organizational structure has been specifically developed to manage rotating machinery control projects, particularly in the retrofitting of industrial gas turbine, steam turbine and load control systems, turbine pumps and generators, centrifugal and axial compressors, and the supply of governors and fuel control valves to turbine OEM's. This structure also supports turnkey projects for station, engine, ESD, SCADA, and reciprocating compressor control.

The Managers have the following functional responsibilities for the projects that are undertaken within the company.

1.1 PROJECT MANAGER

Responsible for: -

Customer interface for all technical and commercial aspects of project.

Generation, maintenance and issuance of Project Schedule, using Microsoft Project software package.

↳ Management and control of the technical project teams, to ensure the completion of engineering design tasks to meet specified technical requirements in accordance with the program milestones. These include Lead Engineers, Systems Engineers, Designers and any sub-contract personnel.

Management and control of the materials procurement, system manufacture, test, and delivery to achieve program milestones.

Generation and issuance of Invoices in accordance with progress payment milestones.

Generation, maintenance and issuance of progress reports both to customer representatives and internal company management.

↳ Assurance of compliance with approved quality procedures.

1.2 FINANCIAL CONTROLLER

Responsible for the provision of the following support functions to the Project Manager:

Providing internal project cost information on a regular basis, enabling Project Managers to maintain close control of costs. This cost information is reviewed by the VP of Operations on a monthly basis for each project in work.

Management and control of Project Accounts Payable, and Accounts Receivable.
Assurance of the accuracy of the PO system.

↳ Management and control of all Project inventory records.

1.2.1 Purchasing & Receiving

Purchasing is responsible for ordering and procuring the items required to meet the Contract Time and Quality Requirements.

The Purchasing & Receiving department is directly responsible for the provision of the following support functions to the Project Manager: -

Selection and approval of vendors (with QA/QC assistance).

Purchasing (generation and issuance of PO's, and amendments).

Progress reporting to Project Managers.

Expediting.

Commercial interface with vendors.

Receiving, inspection, (rejection), and storage of incoming materials.

Packing, dispatch, and shipping of finished Systems and Products.

1.2.2 Administration

Administration is responsible for supporting the Financial Controller functions as well as: -

Human Resources and Company Plans.

Desktop Publishing.

↳ Marketing.

1.3 BUSINESS DEVELOPMENT MANAGER

Responsible for the Sales, Marketing, and Bidding functions, the Project Manager and Lead Engineer assigned during the bid phase of a project typically become part of the Project Team after contract placement to insure continuity of expertise from the pre-contract phase through to project completion.

1.3.1 Sales Support Engineer

Directly responsible for the provision of the following support functions to the Business Development & Project Manager: -

Undertake Site Surveys to determine Scope of Supplies at the Bid stage.

Prepare Technical Response to Bid (Firm and/or Budgetary).

Technical Support during sales visits, presentations and exhibitions.

Account Business Development.

Coordination of Installation and Commissioning Activities.

Coordination of After Sales Support.

1.4 QUALITY MANAGER

Responsible for the provision of the following support functions to the Project Manager: -

Provides a direct Quality interface with the Customers Quality Department.

Independent of the Project Manager carries out Project Audits to insure that the Quality Plan and Company Procedures are being adhered to.

Acts as a Quality Consultant to the Project Manager.

Assists purchasing, with the approval and audits of subcontractors and vendors.

2.0 PROJECT TEAM

The Project Team normally comprises the following personnel:

Project Manager

Lead Engineer / Commissioning Engineer

Systems Engineers

Instrumentation Engineers

Designer

Installation Engineer

Assembly and wiring technician

Additional personnel might include the following: -

Consultants

Quality Engineers

At the Bid stage a Project Manager is appointed and the personnel responsible for producing the Bid are designated.

The Project Team is responsible for all aspects of the Contract and has sufficient flexibility to achieve the technical and commercial requirements of the contract within HPI's overall Quality Management System. HPI's policy is to have dedicated teams where the same people are responsible for the contract from award to final acceptance. This insures continuity throughout the life of the project from pre contract to final acceptance.

3.0 PROJECT TEAM RESPONSIBILITIES

3.1 PROJECT MANAGER

The Project Manager's role is vital to the success of any multi-disciplined project; for this reason, HPI employs only experienced individuals in this role. All HPI Project Managers have managed this type of project in the past and demonstrated the ability to satisfy technical specifications within contractual time scales.

The Project Manager has responsibility for insuring that all the requirements of a contract are met, in particular completion of engineering tasks within program time lines.

The Project Manager coordinates all project activities to include program and technical management, sub-contracts, quality assurance, safety, security and commercial matters.

Customer interface is the prime function of the Project Manager. It is he who will provide the necessary reports and progress statements to satisfy customer management requirements. In this capacity the Project Manager enforces strict adherence to change control procedures.

3.2 LEAD ENGINEER

HPI employs a number of experienced professional engineers who have proved themselves capable of taking technical responsibility for the design, development, test and commissioning of rotating equipment control systems. The Lead Engineer is HPI's technical authority for the Project.

The appointed Lead Engineer is responsible for producing the Functional Specification for the system. This specification is the starting point for detailed engineering, production and test. It is usually developed in close liaison with the customer's engineering team, and is often approved by the customer's duly appointed engineering authority before detailed design work begins.

During the course of design, the Lead Engineer, by attending Technical Meetings and Design Reviews and approving key documents, ensures that the detailed equipment is designed in accordance with the Functional Specification.

The Factory Acceptance Test Specification is produced by the Lead Engineer. Where necessary he is responsible for obtaining Technical Approval from the Customer for this Specification, and hosting the customer witnessed test.

The Lead Engineer reports on all technical aspects of the Contract to the Project Manager, and ensures that all Engineering and Design personnel on the Team follow the Quality Plan and/or HPI's quality procedures for the contract.

The Lead Engineer is finally responsible for commissioning the system at the customer site.

3.3. SYSTEMS ENGINEERS

HPI has found that once the top-level system design is completed and the functional specification is approved the optimum way to achieve delivery of the equipment, software, documentation etc., is to appoint Systems Engineers, who report directly to the Lead Engineer. All Systems Engineers are professionally qualified and have the necessary skills and experience to undertake the application engineering task, which includes:

Bill of Material selection/approval. (Major subcontracts are handled by the Project Manager and/or Lead Engineer).

System detailed electrical design (including interconnection and loop drawings as required).

System detailed mechanical design (including general arrangement drawings).

Governor configuration (software).

Alarm and fault monitoring software.

Temperature monitoring system software.

Sequence control ladder logic software.

Graphic system software.

System, and sub-system, testing.

Factory acceptance test.

⇒ Documentation.

The Design Review Process is used at key stages in the project program to insure achievement of a high integrity system or product that is in compliance with the customer specified requirements.

3.4 SITE INSTALLATION ENGINEERS

HPI employ a number of skilled and experienced Site Installation Engineers to undertake the installation of systems in both offshore and on shore locations. All the Installation Engineers who work at Customers sites are trained and tested before they are allowed to undertake site work without supervision. The Installation Engineers primary responsibilities are:

Ensure that the site requirements are taken into account during design and definition.

Undertake site surveys to ensure all local site conditions are known and considered in bidding and design processes.

Check equipment prior to delivery to ensure that when installation commences there are no problems.

Undertake all installation on site and supervise HPI activities e.g. wiring, fitting, etc.

Ensure that all HPI personnel adhere strictly to all site and statutory regulations including Health & Safety.

All HPI Installation and Commissioning personnel, selected Project Managers, and Lead Engineers are fully qualified to work offshore.

4.0 CONTRACTS

The Project Manager will, on receipt of the contract from the customer and prior to formal contract acceptance, ensure all requirements are adequately defined and documented, and do not significantly differ from the original offer.

Any differences between the contract and the offer are discussed with the customer and amendments obtained as necessary prior to acceptance.

Prior to contract acceptance project plans are issued and reviewed, the following topics are also considered:

- Design and development of special purpose measuring equipment, processes, tools, jigs and fixtures.

- Identification of materials subject to long lead times.

- Manufacturing and Inspection documentation including all necessary work instructions and records for production/process/quality control.

- Resource planning allocating and briefing the project team.

- Procurement of special equipment and tools.

- Confirmation that the quality plan submitted with the proposal requires no changes.

The Project Manager is responsible for insuring that actions resulting from contract review are subsequently cleared.

The Project Manager is also responsible for maintaining the project plan, using a computer based project management package. This package is used to draw up the planning networks and controlling, updating and reporting progress against them. The package allows the Project Manager to take effective action to re-allocate resources and tasks to ensure that the project milestones are met.

After Contract Acceptance the Project Team undertakes all the work necessary to satisfactorily execute the contract.

On contract placement HPI's Project Manager becomes the single point contact on all commercial matters. The Lead Engineer becomes the technical point of contact.

5.0 SUBCONTRACTOR CONTROL

Prior to a subcontract order being placed the subcontractor must achieve approved supplier status. This consists of the following approval and vetting:

Purchasing Department ensures that the organization is financially and commercially sound.

Project Manager or Lead Engineer establishes that the product or service offered is technically acceptable.

The Project Manager assesses the risks and ability of the subcontractor to meet programs and reporting requirements.

Once the subcontractor is approved, a purchase order is issued and from this point all management and progress of the subcontractor is the responsibility of the Project Manager. The Purchasing Department acts on behalf of the project team to insure that the conditions of the subcontract order are achieved.

6.0 QUALITY ASSURANCE AND CONTROL

The policy for Quality in HPI is to ensure that the contractual obligations undertaken by the Company and its sub-contractors are met, in conformance with the specified Quality requirements and to provide the customer with the service and product specified.

The Company Quality Control procedures only allow the use of approved suppliers and sub-contractors, selected on the basis of their technical and management capability. HPI's established Quality Assurance System ensures that the design and production functions are undertaken in accordance with the Total Quality Management strategy for increasing customer satisfaction.

7.0 PROJECT FACILITIES

The company provides a variety of facilities to the project teams: -

7.1 PLANNING

The Management planning tool is Microsoft Project™. The Project Manager is responsible for providing the Project Team with the required planning data both initially and at regular intervals as and when updates are required.

Microsoft Project™ is used for both time and resource planning, the outputs of which are available for any regular report required by the customer.

7.2 SYSTEM BUILD AND TEST

When the system is built and tested, dedicated space, together with all the necessary test equipment is provided to suit the particular project teams requirements.

7.3 TEST EQUIPMENT

When system test is undertaken an extensive range of test equipment is available to the project team:

All necessary standard test equipment.

Special custom designed test equipment used on all gas turbine control systems is available.

All necessary PC equipment is available for testing in the System Test Area.

7.4 SOFTWARE AND HARDWARE DESIGN

HPI have a number of PC work stations networked to a file server, and from there to plotters, printers, faxes etc. These facilities not only reduce the internal paperwork and improve time scales, but also are able to provide properly printed and plotted customer information.