
Engineers & Constructors
SPACE CONTROLS

CONTENTS

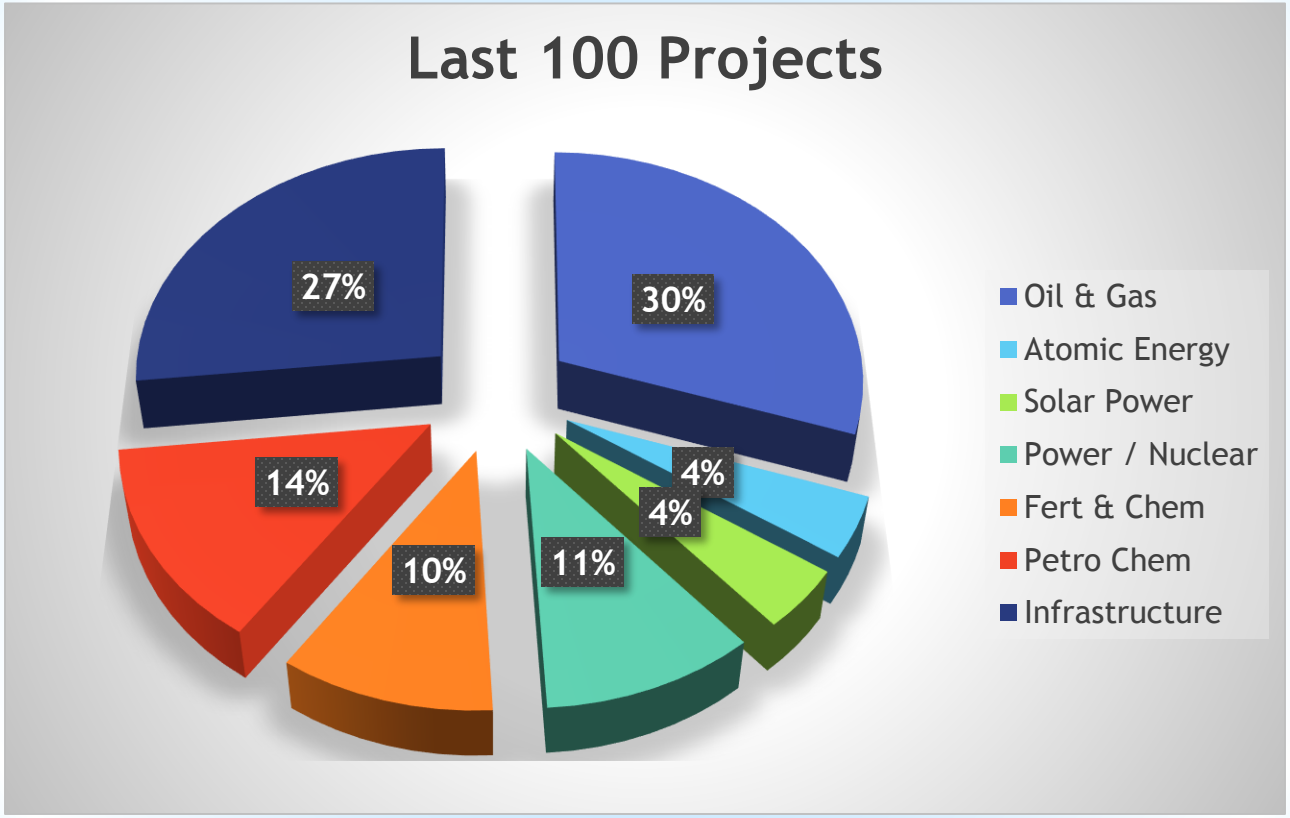
INTRODUCTION

SPACE CONTROLS is established as a major contracting firm into the field of Electrical & Instrumentation activities since 1992 (earlier as Max Instruments).
Since its inception, **SPACE CONTROLS** have worked for many blue chip Co.
SPACE CONTROLS serves in the field of Electrical & Instrumentation included:

- Design
- Engineering
- Procurement
- Construction Supervision
- Installation & Calibration
- Testing and Commissioning
- Turn around and Shut down maintenance
- Preventative Maintenance
- Operations & Maintenance

SPACE CONTROLS maintains a highly trained cadre of Engineers, Supervisors, Technicians, Store Keepers and skilled workmen. Extensive experience has been gathered through the various challenging works undertaken.
SPACE CONTROL'S Capabilities in the field of Design Engineering, Installation, Erection, Testing and Commissioning activities are detailed out
on the pages to follow:

FIELDS OF SERVICES



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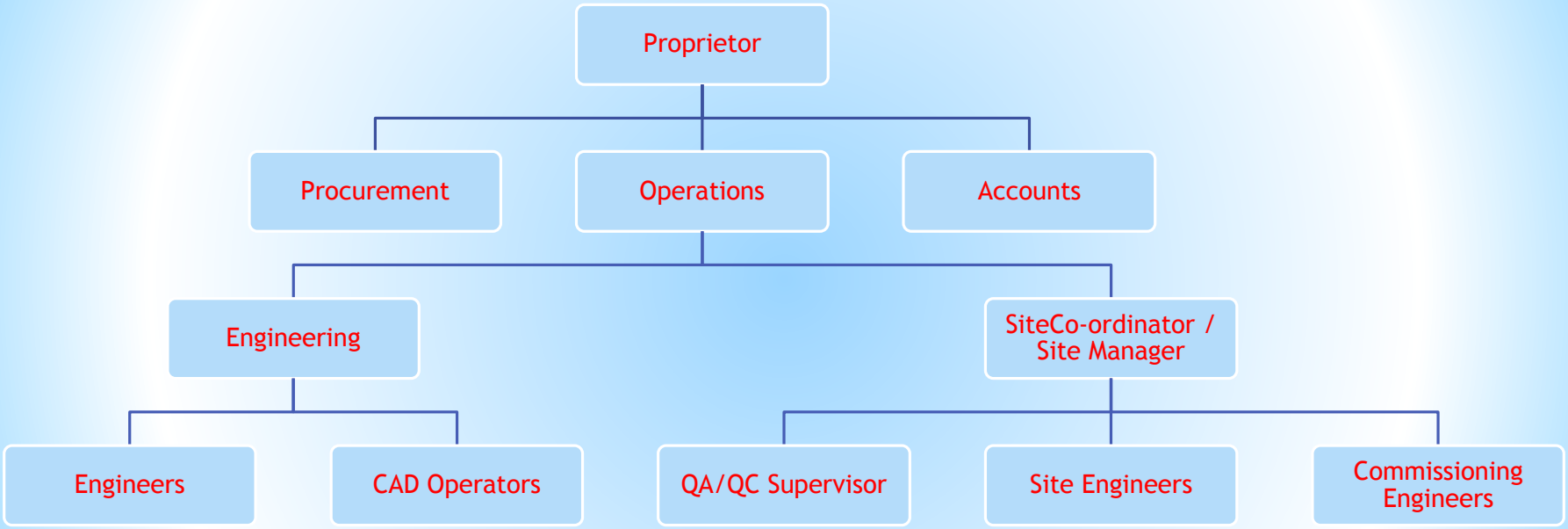
CURRENT COMMITMENT

Major Project Under Execution			
Sr. No.	Name of the Project	Client	Scope of Work
1	Kakrapar Atomic Power Project Unit-3&4.	BHEL (EDN)	Control & Instrumentation Installation & Commissioning (KAPP 3&4 CCIP)
2	Kakrapar Atomic Power Project Unit-3&4.	NPCIL	Fuel Handling System Instrumentation work.

ORGANISATION CHART



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COMPANY MANPOWER DETAILS

Total no. of Employees (In Nos.) →										
Function Wise Employee Break up ↓		POST-GRADUATES		GRADUATES		DIPLOMA	ASSOCIATES			TOTAL
		Technical	Non-Technical	Technical	Non-Technical	(including Trainees)	Skilled (ITIs)	Semi-Skilled	Non-Skilled	
No. of Employees →	Human Resources				1	1				2
	Administration			1	2					3
	Sales & Marketing	1	1							2
	Finance & Accounts			1	2					3
	Quality			3		1				4
	Safety			2		1				3
	Engineering	2		4						6
	Procurement			1						1
	Project Management			3	5	2				10
	Stores			2	3					5
	Logistics			1	1					2
	Services			1		2	25	10	70	108
	Others									0
Total no. of Employees (In Nos.)		3	1	19	14	7	25	10	70	149

Note: The above Numbers may vary depending upon company's commitments

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DESIGN & ENGINEERING CAPABILITIES

(Instrumentation)

SPACE CONTROLS is equipped with a very versatile Electrical & Instrument division embracing both Design and Erection activates. These divisions maintain a highly trained cadre of Engineers, Erection Supervisors, Foremen, Skilled technicians, Skilled Workmen, and other supporting staff to help in its endeavors.

The design team consists of a core team of qualified engineers engaged in design and detailed engineering activities for in house projects and turnkey design engineering services.

The activities for instrumentation include:

A. Drawing Preparation.

- Preparation of P & I diagrams.
- System Design.
- Cost Estimation.
- Preparation of instrument specifications.
- Design & layout of central control room.
- Design of Alarm, Interlock and Logic circuits.
- Preparation of loop schematics / Hook up diagram.
- Orifice plates and control valve sizing.
- Instrument schedule.
- Installation drawings.
- Bill of Erection materials and accessories.
- Schematic arrangement of Instrument power distribution.
- Schematic arrangement of junction boxes for cables and tubes.
- Location arrangement drawings of field mounted Instruments and JB.
- Layout of Instrument Cables and Tubes

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DESIGN & ENGINEERING CAPABILITIES
(Instrumentation)

B. Vendor inquiry – Selection –Negotiation and placement of order for Erection material.

C. Progress follow up and inspection.

D. Installation supervision and commissioning.

During the last one decade Instrumentation concept has undergone a revolutionary Change for conventional pneumatics and hydraulics to electronics and microprocessor based systems and computer technology. Our personnel have kept pace with all these latest trends in technology. Our personnel are familiar in usage of:

- Smart Instruments
- Interfacing smart instrument with computers/DCS
- Programmable logic controllers for sequencing & interlocks
- Data acquisition systems

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DESIGN & ENGINEERING CAPABILITIES

(Electrical)

The activates for electrical includes:

A. Preparation of Drawings

- Preparation of single line diagram
- System Design
- Preparation of equipment specifications
- Design of various cable lay-outs
- Design of the schedules for controls, interlock and logic circuits, etc.
- Schedule of capital equipment's
- Termination of specifications for various capital equipment's
- Preparation of the installation drawings
- Bill of erection materials and accessories
- Schematic arrangement for power distribution
- Preparation of cable schedules

B. Vendor enquiry - Selection - Negotiation and placement of orders for Electrical materials.

C. Progress, follow-up and inspection

D. Installation, Supervision, Testing and Commissioning.

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INSTALLATION & COMMISSIONING CAPABILITIES

(Instrumentation)

Erection team consists of qualified Engineers and Supporting Staff; they include Supervisors, Foremen, Technicians, Store Keepers and Accountants etc.

Erection services include:

- Procurement of erection material
- Inspection
- Field engineering of Junction Box locations, Cable tray routing, Instrument support and as built drawing
- Installation of main and branch cable ducts and trays, Excavation of Trenches etc.
- Installation of main air piping
- Installation of instruments and its supports
- Impulse piping and tubing
- Main cable and branch cable laying and termination
- Installation of control panels, PLC panels, Marshaling racks, DCS consoles and its auxiliary activities
- Calibration of instruments
- Testing of impulse and air line piping
- Testing of cables
- Loop checking of the system
- Commissioning assistance

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INSTALLATION & COMMISSIONING CAPABILITIES

(Electrical)

Erection service for electrical field includes:

- Procurement of erection materials
- Inspection
- Field engineering in consultation with Client/ Consultant
- Cable tray routing
- Programming of various activities to be carried out at site
- Project Monitoring
- Follow-up of getting fronts for the work
- Planning the activities
- Testing and commissioning

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CONSTRUCTION MANAGEMENT

The construction manager has the complete authority to act on the company's behalf, technically & commercially, & is responsible for the project, in its entirety to ensure completion of the work to the satisfaction of the client.

To achieve successful, timely and economic completion of the project, it is essential to bring together a great many specialized skills. These will be supplied by SPACE CONTROL'S personnel who may be Engineers, Supervisors, Accountants and Purchaser etc. The responsibility for co coordinating the team and concentrating their effort in to one common approach rests with the construction manager.

Constructability and operability are designed into each of SPACE CONTROL'S projects in a manner consistent with the scope, size and complexity of the particular project.

SPACE CONTROLS places a strong emphasis in this area of project development and is fortunate that majority of project managers, engineers and technical specialists have an operation and/or construction/ fabrication background.

The requirement of operations and construction involvement in the project design phase are discussed and agreed to during the project execution planning sessions and representatives are typically encouraged to participate in:

- P & ID and shutdown review meetings.
- Review for major vendor design drawings.
- Review of detailed construction drawings.
- Review of control bid packages.

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CONSTRUCTION MANAGEMENT

Project operability assurance

Operability of projects is of great importance at SPACE CONTROLS. Early and regular inputs from the client operating team is actively encouraged and operability further enhanced through the principles of Continuous Quality Improvement (CQI)

Post job review sessions are routinely conducted to ensure that all aspects of the facility design that could have been improved are documented for consideration on subsequent projects.

Safety Program and Results:

For SPACE CONTROLS, safety starts with the mind set of safety in design.

This means that, given the operational background of our engineering team, safe guarding are part of design work from the onset.

SPACE CONTROL'S construction safety program is consistent with the Company's commitment to safety and good business practices.

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QUALITY ASSURANCE & SAFETY

Quality Assurance manual has been prepared in order to assure the compliance of the quality requirements described in the erection contract being executed.
Quality Assurance is a system for the administration of quality, in order to obtain adequate confidence of the quality of a product or service where quality of a product or service where quality is described as follows:

“Quality is the ability to satisfy a given need in the frame of the economic possibilities”.

The QA Manual is the overall document which describes the general quality requirements and their principal activities.

The contents of the QA Manual consists of detailed written procedures and instructions which describe how to comply with the quality assurance requirements of contract orders , design , specification , drawing , materials , processes, fabrication, inspection tests documentation by records from the acceptance of contract/orders, to final approval by the Client/consultants

Safety is one of the concerns of our top management, Managers and supervisors are made fully accountable for the safety performance in the areas they control, and all employees are given through and continuing guidance in safe methods of work. To apply these principles:

- Need to develop safety policies
- Set up an organization to maintain safety
- Prepare and implement safety program

CLIENT REFERENCE

Name & Designation	Company	Contact Number
Mr Vinod Kumar Tripathi (Head Construction)	Alstom T & D Ltd	+91 9004387436
Mr Pralhad Pawar (V P Projects)	Tata Projects	+91 9820150754
Mr. N K Mittal (Chief Construction Head)	Nuclear Power Corporation India Ltd.	+91 9429946513
Mr. Arvind Tiwari (General Manager)	Bharat Heavy Electricals Limited.	+91 9945530169
Mr. Saiju Mathew (Instrumentation Head)	CAIRN INDIA Ltd	+91 9001995493
Mr. Raju Kankipati, (AGM – Construction)	Leighton Welspon	+91 9769496532
Mr C R Sahu (Head Operations)	LNT	+91 9971377877

"Thanking you and assuring you our best services at all times"

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