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# CAPABILITY STATEMENT OF CONSTRUCTION SAFETY STUDIES

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**CHOLAMANDALAM MS RISK SERVICES** (AN ISO 9001: 2008 COMPANY)

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**Head Office:**  
4<sup>th</sup> Floor, Parry House,  
2 N.S.C. Bose Road, Parrys,  
Chennai – 600 001  
**Tel:** +91- 44- 3044 5400 | **Dir:** +91- 44- 3044 5623  
**Fax:** +91- 44- 4216 6001  
**Email:** [inquiry@cholams.murugappa.com](mailto:inquiry@cholams.murugappa.com)

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## CONSTRUCTION HEALTH, SAFETY & ENVIRONMENT AUDIT

We all know, Construction industry makes significant contribution to nation economy and provides large number of employment. As per the latest statistics released by CIDC, about 31 million people are employed in construction sector in which close to 73% are unskilled labourers. Use of new technologies and deployment of project management strategies has made it possible for this industry to undertake mega projects inspite of facing number of challenges. Eventhough it is one of the fastest growing sectors in India, it records maximum number of accidents and injuries than any other industrial activity.

In addition to cost of human injury and death, the accidents are unduly expensive in terms of damage of property and delays in completion of project.

Chola MS Risk Services (an ISO: 9001:2008 Certified Company) pioneered the concept of construction safety audits in India. With its risk based approach and applying proven audit techniques employed in other sectors, Chola MS audits help organizations address the safety issues in a more systematic manner.

### Objectives of Construction HSE Audit

- To carry out a systematic, critical appraisal of all construction hazards involving personnel, plant, services and operation method at worksite and
- To ensure that the present Construction Safety, Health and Environment Management System fully satisfy the legal requirements, company's written safety policies, objectives and applicable safety guidelines

### Scope of Audit

Construction HSE Audit of project site will be carried out in two parts

- a) Audit on HSE Management systems at project site
- b) Audit on Technical Elements

Audit on HSE Management System evaluates

- HSE Policy, HSE Plan, HIRA, HSE Inspection, HSE Organization and Committees, HSE Awareness and Training, HSE Evaluation of Subcontractors, Work Permit systems, HSE Performance Measurement, Management of First aid, Incident Reporting and Incident Analysis, Corrective action and Preventive action and Emergency Preparedness / Response plan

Audit on Technical Element covers

- Excavation, Blasting, Piling, Scaffolding, Work at Height, Formwork and Concreting, Material Handling, Grinding, Welding & Gas Cutting, Plant & Machinery, Electrical Safety, Fire Protection, House Keeping, Personnel Protective Equipment, Occupational Health & Hygiene, Environment Management

### Categorization of Audit findings

Audit on HSE Management Systems

Recommendation Category	Criterion
Category A	Recommendations that are required to be implemented immediately based on the minimum guidelines by management, applicable Indian statutes.
Category B	Recommendations that are provided based on Good Management Practices followed in similar industry/features that can be considered for further strengthening the HSE Management system

Audit on Technical Elements

Recommendation Priority	Criterion
<b>High</b>	Recommendations that require immediate implementation
<b>Medium</b>	Recommendations that may be implemented within next 2 Weeks
<b>Low</b>	Recommendations that may be implemented during the next available opportunity

Recommendations High, Medium & Low based on the followings

Severity	Likelihood		
	Low	Medium	High
High	Medium	High	High
Medium	Low	Medium	High
Low	Low	Low	Medium

## Description of Severity level\* for different consequences

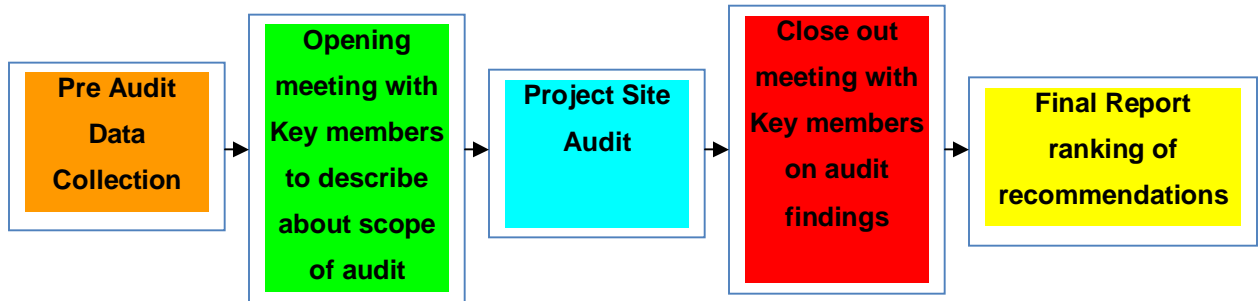
Consequence	Low Severity	Medium Severity	High Severity
Health & Injury	Lead to No injury, First aid cases only (E.g. minor cuts and bruises, irritation, temporary discomfort)	Can Lead to medical treatment (E.g. lacerations, burns, sprains, minor fractures, dermatitis)	Can Lead to Death, serious injury or life threatening occupational disease (E.g. Amputations, major fractures, Multiple injuries, occupational cancer, acute poisoning and fatal diseases.
Property Damage	Inexpensive and easily replaceable	Fairly expensive, and/or fairly difficult to replace	Expensive, or irreplaceable
Environmental Harm	Affects a few people temporarily at low level	Affects a few people seriously or many people at a relatively low level.	Affects many people, permanently or for a long time at a high level.

## Description of likelihood levels\*

Likelihood	Description
Low	Not likely to occur
Medium	Possibly known to occur in other industry
High	Common or repeated occurrence, all time can be expected to happen in construction industry

\* Symbol – Based on Auditors experience

How we approach an audit



Standards Adopted

- ✓ Applicable statues for Construction Industry in India
- ✓ Relevant Indian Standards (IS) applicable to construction Industry.
- ✓ The Building and Other Construction Workers Act 1996 & Central Rules 1998
- ✓ Good Engineering and Safety Practices followed in similar construction sites

Structure of Report

The Report would be structured and will have following sections:

- ✓ Executive Summary
- ✓ Introduction
- ✓ Audit on HSE Management Systems
- ✓ Audit on Technical Elements
- ✓ Location wise – Observations & Recommendations
- ✓ Annexure

## Benefits of Construction HSE Audit

- ✓ Evaluate effectiveness in managing Safety, Health and environment risks at worksite, will motivate the clients to strive for improvements in managing potential Safety, Health and environment risks at work site.
- ✓ Auditing on each element of both Technical and HSE Management systems at worksite, the management of worksite can focus its attention to elevate the weaker elements in order to improve overall worksite conditions

## TECHNICAL SUPPORT SERVICES

CMSRSL can deploy full time safety professional on the jobsite for long term services for guiding/helping project team to reduce accidents and promote safety awareness throughout the site organization.

CMSRSL Professionals have a diverse and wide range of knowledge in construction, standards applicable to construction industry and best practices followed in project.

### Scope of Services

- ✓ Monitor the safety systems at project site followed by contractors as per requirements followed in construction industry.
- ✓ Carry out periodic inspections to identify potential hazards and suggest remedial measures
- ✓ Coordinate and active participate in site safety meetings to suggest practical risk management solutions
- ✓ Conduct trainings on specific HSE topics to team or group led by project management if required.
- ✓ Submit HSE Performance Status to client.

### Benefits

- ✓ Improve productivity by taking care of potential problems before they arise.
- ✓ Improve regulatory safety compliance
- ✓ Facilitating in preventing of workplace accidents and help the organization to become more competitive in future.

### Role of CMSRSL

CMSRSL Expert will carry out the role of facilitator. The main task of facilitator will guide the management/team to take proactive measures and to ensure that every step is recorded to achieve their HSE objective.

## DEPUTING SCAFFOLD EXPERTS IN PROJECT

Contractors wishing to use scaffolding for their own purposes, to facilitate their activities etc., must adhere to all regulations and specifications whenever the work is performed at site to safeguard their own and stakeholders interest. CMSRSL can offer a full time scaffolding expert for the period of construction. CMSRSL Scaffold experts have a diverse and wide range of knowledge in scaffolding, standards applicable to scaffolding in construction industry and best practices followed in project.

The Scaffolding expert would carry out the following

- ✓ Provide support and guidelines to prepare scaffoldings at site as per national and international standards,
- ✓ Coordinate, carryout stage inspection and certify new scaffoldings
- ✓ Carryout periodic checks/inspections of scaffoldings
- ✓ Render training on scaffoldings to engineers and their workmen
- ✓ Submit reports to client.

### Standards Adopted

- ✓ Handbook on Construction Safety Practices (SP 70 from BIS)
- ✓ The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
- ✓ BS : 5973 Code of Practice for Access and working scaffolds and special scaffold structures in steel
- ✓ IS : 2750 Specification for Steel Scaffoldings
- ✓ OSHA Scaffold standard
- ✓ Good Engineering Practices
- ✓ Saudi ARAMCO Scaffolders guide

### Benefits

- ✓ Reinforces safety and scaffolding good practices at site.
- ✓ Reducing downtime and improves productivity

## PREPARATION OF CONSTRUCTION SAFETY MANUAL

Good HSE Manual is an integral part of good project management .CMSRSL is capable of developing tailored made comprehensive construction HSE manual incorporating internationally established practices and systems as well as guidelines appropriate to the Indian context.

Construction HSE manual are written by team of construction safety specialists. The construction safety manual provides in depth information and advice on key elements critical to any safety operations such as safety management principles, safety administration programs, general & civil activities safe work practices, mechanical equipments and material safe work practices, electrical safety at project site , model checklist, risk assessment sheets and many others.

### Valuable Inputs from

- ✓ Internationally recognized standards / Code of Practices
- ✓ All Applicable Indian statutory and standards relevant to construction industry
- ✓ Product brochures from several companies
- ✓ Other safety manuals recognized globally
- ✓ Experts advice

### Benefits

- ✓ Easy to read, Easy to use manual, gives practical guidelines on how to develop an effective safety management system
- ✓ Reflects latest HSE work practices
- ✓ Complying with national & international standards

## CONSTRUCTION SAFETY TRAINING

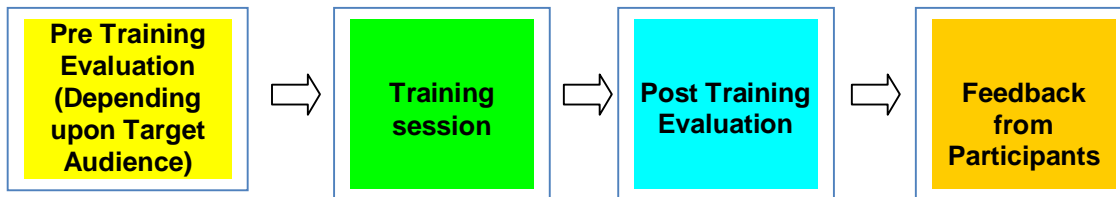
CMSRSL can deliver safety training for construction industry. CMSRSL is equipped with a team of technical experts having hands on experience in managing variety of risks. Their consulting experience and knowledge about statutes, regulations, standards etc., provide in depth technical knowledge to the participants. The list of topics for training programme is

- ✓ Accidents in construction industry
- ✓ Statutory Regulations pertaining to Indian Construction industry
- ✓ Construction Safety Management
- ✓ Safety in Excavations and Trenching

- ✓ Safety in Work at Height
- ✓ Scaffolding Safety
- ✓ Electrical Safety
- ✓ Safety in Material Handling
- ✓ Safety in Welding & Gas Cutting
- ✓ Accident case studies at construction site

CMSRSL can design training program based on client requirement.

### Methodology



### Strength of training program

- ✓ Interactive sessions rather than class room approach
- ✓ Discussion of practical problems
- ✓ Films on relevant topics
- ✓ Discussion on Case Studies

## THE CLIENTELE (PARTIAL LIST)

S. No.	Client	Projects
01	Areva T & D India Pvt. Limited	Construction Safety Audits / Trainings
02	Denso Kirloskar India Limited	Construction HSE Audit
03	ETA Star	Construction HSE Audit
03	Hindustan Zinc limited-Udaipur and Zawar Mines	Construction HSE Audits, Incident Investigation, Construction Safety Training
04	Lafarge India Pvt. Limited, Sonadhi	Construction HSE Audits Technical Safety Services Pre Commissioning Safety Audit
05	Toyota Tshusho Private Limited	Construction HSE Audits / Training
06	Tata Consultancy Services, Chennai (Siruseri Site)	Construction HSE Audits Technical Safety Services
07	Tata Consultancy Services, Mumbai (Banyan Park)	Construction HSE Audits Technical Safety Services
08	Tata Consultancy Services, Hyderabad (Synergy Park)	Construction HSE Audits Technical Safety Services
09	Syscon India Limited	Construction HSE Audit
10	Shell India Private Limited	Preparation of Construction Safety manual, Construction Safety Training
11	Amara Raja Batteries Limited	Construction Safety Training
11	Ahluwalia Contracts India Limited	ISO 14001 & OHSAS 18001 up gradation
12	Prominent builders & promoters	Risk Inspection

13	Action Construction Equipment Limited	Safety Audit
14	Mohite Associates	Risk Inspection
15	Coromandel Engineering Company limited	Preparation of Construction Safety manual
16	Lafarge India Pvt. Limited, Mejia	Construction HSE Audits Technical Safety Services Pre Commissioning Safety Audit
18	Lafarge India Pvt. Limited, Jojobera	Construction HSE Audits / Construction Safety Trainings
17	Technip KT	Pre commissioning Audit Training
18	Gujarat Gas	Multiple Training programs on specialized topics like Work at Height, Scaffolding etc
19	Coastal Energen Limited	Construction Safety Audits
20	NTPC Tamil Nadu Energy Corporation	Construction Safety Audit / Construction Safety Training