Manual for Safety Rating

of

Ready Mixed Concrete Plants

Developed by

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RMCMA Safety Rating

Preface

Ready Mixed Concrete Manufacturers' Association (RMCMA), India is a non-profit industry organization of leading ready mixed concrete producers from India. The membership includes many well-known corporates like ACC Ltd, UltraTech Cement Ltd, Lafarge Aggregates & Concrete (India) Pvt Ltd, RMC Readymix India- A division of Prism Cement Ltd, RDC Concrete (India) Pvt Ltd, and Godrej & Boyce Mfg Co Ltd etc. The RMCMA is a registered body under the Societies Registration Act, 1860 (Bylaw 21) of the Government of India and was established in March 2002.

The vision of RMCMA is to make ready-mixed concrete the preferred building material of choice across the whole of India. The RMCMA is committed to provide leadership to the ready-mixed concrete industry in India without sacrificing the interests of end-users, designers, specifiers, owners and others.

The RMCMA is providing latest information on products and services to all its Members so that they are able to upgrade their operations continually. It would share the latest developments in concrete technology within its members and the customers of ready mixed concrete.

Leading RMCMA member companies follow well-established Occupational Health and Safety (OHS) and Environmental Standards. However, the need to have a standardized rating system to evaluate OHS practices was felt. Therefore, RMCMA approached National Safety Council (NSC) and sought its assistance in formulating Safety Rating System for the ready-mixed concrete industry in India. The RMCMA's Health, Safety & Environment (HSE) Committee worked closely with the NSC Team in developing this Rating System, which we are sure, would help the RMCMA to assess RMC units with same yard stick and motivate them towards continual improvement.

The Rating System is prepared to meet requirement of all sites of RMCMA.

We wish to place on records the appreciation for the hard work by NSC Team and HSE Committee of RMCMA in developing this comprehensive Safety Rating Manual for ready-mixed concrete plants in India.

(Ravishankar M)
President
Ready Mixed Concrete manufacturers' Association

1 About NSC & RMCMA

NSC

National Safety Council (NSC) is a premier, non-profit, self-financing and tripartite apex body at the national level in India. It is an autonomous body, which was set up by the Government of India, Ministry of Labour and Employment on March 4, 1966 to generate, develop and sustain a voluntary movement on Safety, Health and Environment (SHE) at the national level. It was registered as a Society under the Societies Registration Act, 1860 and subsequently, as a Public Trust under the Bombay Public Trust Act, 1950. NSC's vision is to be a national leader for providing guidance and services to make workplaces safer, healthier and environment friendly. Building capacity, developing material, methods, procedures and strengthening the national movement (including unorganized sector) on Safety, Health and Environment to prevent and mitigate the loss of life, human suffering and economic losses is the mission of NSC.

RMCMA

The Ready Mixed Concrete Manufacturers' Association (RMCMA), India, is a non-profit industry organization of leading ready mixed concrete producers from India. The RMCMA is a registered body under the Registrars of Societies Act 1860 (By law 21) of the Government of Maharashtra, India. It was established in March 2002. The vision of RMCMA is to make ready-mixed concrete the preferred building material of choice across the whole of India. The RMCMA is committed to provide leadership to the ready-mixed concrete industry in India. It advances the interests of the entire ready mixed concrete industry in India, without sacrificing the interests of end users, designers, specifiers, owners and others. It provides a variety of services to its Members in respect of trade, commerce, promotion, education, etc. connected with ready mixed concrete. The RMCMA will encourage the sustainable development of concrete industry in India and its staff and Members would strive to emphasize the fact that concrete is the best environmental-friendly material of construction available today. The RMCMA would provide latest information on products and services to all its Members so that they are able to upgrade their operations continually. It would share the latest developments in concrete technology with its members and the customers of ready mixed concrete. The RMCMA would strive to expand the market for ready mixed concrete in India. It would endeavor to bring a large majority of RMC manufactures under its fold so that a strong combined voice of the industry can be used to find meaningful solutions on various issues hindering the healthy growth of the industry. The RMCMA staff and members would work in a spirit of co-operation and ensure that the ready mixed concrete industry operates harmoniously within communities and the society at large.

2 SCOPE

The Ready-mixed concrete plants produce concrete and supply to different construction sites in a ready to use condition. The main operations in the plant involve batching of different ingredients of concrete such as cement, aggregates, sand water, chemical and mineral admixtures in accurate proportions, mixing the ingredients thoroughly and transport the fresh concrete to various construction sites, where the concrete is placed in formwork. The concrete mix is designed to provide the required performance.

This Rating System is applicable only to Ready Mixed Concrete plants in India. The operations of transporting and placing concrete at site are excluded from the scope of the rating system as they are handled by different agencies.

3 INTRODUCTION TO SAFETY RATING SYSTEM

The RMCMA Safet Rating Manual lists eight key elements for assessing the safety standards in an RMC plant. Each of the eight key elements has several sub-elements. The total number of sub-elements in the Manual is about 60. The safety rating system has five levels – five being the highest “Excellent” rating. The other ratings levels are 4, 3, 2 and 1 being for Very Good, Good, Average and Basic respectively.

Page 8 shows the five points preparing a safety rating report. The benefits of having a safety rating system are also described on page 9. Table 1 on page 10 gives element wise weight age and % share of elements. Table 2 starting on page 11 shows the maximum scores for the sub elements. The justification of percentage share of marks is given on page 14. The methodology of implementing the rating system exercise appearing on page 17, divides the work into three parts viz. Pre-visit, plant –visit and post visit. The checklist for scoring in Table 3 begins with page 19. Table 4 (page 53) Table 5 (page 55) are for Consolidated Score sheet and Marks for all elements with % marks respectively. Finally, at the end Annexure – I, lists the types of records to be examined during the safety rating audit.

4 KEY ELEMENTS FOR SAFETY RATING SYSTEM

The eight key elements are

1. **OH&S Management**
2. **Physical Hazard**
3. **Chemical Hazard**
4. **Fire and Explosion Hazard**
5. **Industrial Hygiene/Occupational Health**
6. **Accident/Incident Reporting, Investigation and Analysis**
7. **Emergency Preparedness (On-site)**
8. **Safety Inspection**

The detailed scoring and questionnaire is in Table 3

4.1 Sub-Elements

A. OH&S MANAGEMENT

1.	OH&S Policy	2.	OH&S organizational set-up
3.	Safety Manual	4.	Safe Operating Procedures
5.	Plant Modification Procedure	6.	Work Permit System
7.	Contractors' Safety System	8.	Plant Design & Layout
9.	Medical Management of Accidents	10.	Employee Selection and Placement
11.	Safety Culture	12.	Statutory Licenses, Approvals and Records
13.	Motivational and Promotional Measures for OH&S	14.	Hazard Identification and Risk Assessment
15.	Product Safety	16.	Safety Training
17.	Personal Protective Equipment		

B. PHYSICAL HAZARD

1.	Housekeeping	2.	Machine and General Area Guarding
3.	Material Handling	4.	Electrical Safeguarding
5.	Safety in Storage and Warehousing	6.	Hazard Assessment of New Equipment
7.	Control Measures for Work at height	8.	Safety in Confined Space
9	Stability of Equipment		

C. CHEMICAL HAZARD

1.	Transportation of Hazardous Substances	2.	Handling of Hazardous Substances
3.	Material Safety Data Sheet (MSDS)	4.	Spill Control measures
5.	Gas Cylinder Safety	6.	Labeling and Colour Coding
7.	Hazardous Waste management		

D. FIRE AND EXPLOSION HAZARD

1.	Organisational Setup for Fire Fighting	2.	Built in Safety in Design and Construction
3.	Fire Detection and Alarm System	4.	Portable Fire Extinguishing System
5.	Fire Fighting Equipment & Facilities	6.	Fire Drill
7.	Fire Fighting Training		

E. INDUSTRIAL HYGIENE / OCCUPATIONAL HEALTH

1.	Ventilation, Illumination and Noise	2.	Workplace Monitoring of Hazardous Chemicals
3.	First aid Facilities and Occupational Health Centre (OHC)	4.	Periodic Medical Examination
5	Occupational Disease		

F. ACCIDENT/ INCIDENT REPORTING, INVESTIGATION AND ANALYSIS

1.	Accident Reporting,	2.	Accident Investigation
3.	Analysis of Accidents	4.	Implementation of Recommendations
5.	Reporting & Investigation of Near - miss Incidents		

G. EMERGENCY PREPAREDNESS (ON-SITE/OFF SITE)

1.	Site specific details, Identification of emergencies and accident scenario, Updation of emergency plan	2.	Medical care
3.	Periodic Drills/ exercises	4.	Emergency Control Centre

H. SAFETY INSPECTION

1.	Inspection Programme	2.	Methodology & Inspection Team
3.	Safety Audit	4.	Compliance of Recommendations

5 CRITERIA FOR SAFETY RATING

The marks to be obtained for getting Various Levels of Ratings		
Level of Rating		**Grading Percentage**
5(Five)	**Excellent**	**86-100%**
4(Four)	**Very Good**	**76 - 85%**
3 (Three)	**Good**	**66 - 75%**
2(Two)	**Average**	**56- 65%**
1 (One)	**Basic**	**50 - 55%**

i) The RMC units expecting **Level Five Rating** (Highest) should have all the eight key elements systems in vogue i.e, they should have at least 75% marks in all the key elements and overall marks 85% and above.

ii) The RMC units expecting **Level Four Rating** should have all the eight key elements systems in vogue and they should score at least 65% marks in all the key elements and overall marks 75% and above.

iii) The RMC units expecting **Level Three Rating** should have at least seven key elements including the OHS Management system in vogue and they should score at least 55% marks in all the key elements and overall marks 65% and above.

iv) The RMC units expecting **Level Two Rating** should have at least six key elements including the OHS Management system in vogue and should score at least 50% marks in all the key elements and overall marks 55% and above.

v) The RMC units expecting **Level One Rating** should score overall marks 50% and above.

vi) RMC units scoring below 50% would be provided with Score Card only

6 REPORT ON SAFETY RATING

a) Brief profile of unit under assessment,

b) Details of team visited for the assessment with dates,

c) Marks obtained in individual sub-elements,

d) Total marks obtained in the eight major elements ,

e) Rating Level, if applicable.

7 BENEFITS

- *Leap towards higher safety standard and better Health Safety and Environmental repute for workforce.*
- *Benchmarking safety systems of the RMC Units*
- *Scale all Readymix the industries with same yard stick and lead/ motivate the industries towards continual improvement.*
- *Make the management and workers of units- proud to get recognition to their effort towards improvement in safety.*
- *The public know that the unit management company takes care about the workforce*
- *The stakeholders would have confidence in enhancing business with High Level of Rating Company/Unit*
- *People would be willing to join company knowing the working condition and the safety track records*
- *Chance of motivating other company management to achieve higher standard and competitive feeling nationwide.*
- *Primarily based on IS 14489 and other statutory requirements*
- *The rating is tuned to Indian context and at par with International Rating System*

8 ELEMENT- WISE WEIGHTAGE

Table 1

No	Elements	Marks	% Share of Elements
A	OH&S Management	**245**	**25.8**
B	Physical Hazard	**170**	**17.7**
C	Chemical Hazard	**60**	**6.3**
D	Fire and Explosion Hazard	**50**	**5.3**
E	Industrial Hygiene/Occupational Health	**95**	**10**
F	Accident/Incident Reporting, Investigation and Analysis	**150**	**15.8**
G	Emergency Preparedness (On-site/Off-site)	**50**	**5.3**
H	Safety Inspection	**130**	**13.7**
Total Maximum Score		**950**	**100**

9 SUB-ELEMENT- WISE MAXIMUM SCORE

Table 2

A. O H & S MANAGEMENT

No	Sub-element	Marks	No.	Sub-element	Marks
A1	OH&S Policy	**25**	**A2**	OH&S organizational set-up A2.1 Safety Department A2.2 Safety Committee	**20** **(15** **5)**
A3	Safety Manual	**5**	**A4**	Safe Operating Procedures	**15**
A5	Plant Modification Procedure	**5**	**A6**	Work Permit System	**15**
A7	Contractors' Safety System	**15**	**A8**	Plant Design & Layout	**15**
A9	Medical Managemen Accidents	**15**	**A10**	Employee Selection and Placement	**5**
A11	Safety Culture A11.1 Commitment of Management A 11.2 Attitude of Workers	**25** **(15** **10)**	**A12**	Statutory Licenses, Approvals and Records	**15**
A13	Motivational and Promotional Measures for OH&S	**10**	**A14**	Hazard Identification and Risk Analysis	**20**
A15	Product Safety	**5**	**A16**	Safety Training	**15**
A17	Personal Protective Equipment	**20**			
				Total A	**245**

B. PHYSICAL HAZARDS

No	Sub-element	Marks	No.	Sub-element	Marks
B18	Housekeeping	**15**	**B19**	Machine and General Area guarding	**30**
B20	Material Handling	**20**	**B21**	Electrical Safeguarding 21.1 General Electrical	**55** **(30**

No	Sub-element	Marks	No.	Sub-element	Marks
				Safety 21.2 Electrical Safety during Operation and maintenance	25)
B22	Safety in Storage and Warehousing	10	B23	Hazard Assessment of New Equipment	5
B24	Control Measures for Work at height	10	B25	Safety in work in confined space	10
B26	Structural stability	15			
				Total B	170

C. CHEMICAL HAZARDS

No	Sub-element	Marks	No.	Sub-element	Marks
C 27	Transportation of Hazardous Substances	15	C28	Handling of Hazardous Substances/Chemicals	5
C29	Material Safety Data Sheet (MSDS)	5	C30	Spill Control measures	5
C31	Gas Cylinder Safety	10	C32	Labeling and Painting	10
C33	Hazardous Waste management	10			
				Total C	60

D. FIRE AND EXPLOSION HAZARDS

No	Sub-element	Marks	No.	Sub-element	Marks
D34	Organisational Setup for fire fighting	5	D35	Built in Safety in Civil Design and Construction	5
D36	Fire Detection and Alarm System	5	D37	Portable Fire Extinguishing System	20
D38	Fire Fighting Equipment & Facilities	5	D39	Fire Drill	5
D40	Fire Fighting Training	5			
				Total D	50

E. INDUSTRIAL HYGIENE AND OCCUPATIONAL HEALTH

No	Sub-element	Marks	No.	Sub-element	Marks
E 41	Ventilation, Illumination and Noise E41.1 Ventilation	35 (10	E42	Work place monitoring for hazardous chemicals	5

No	Sub-element	Marks	No.	Sub-element	Marks
	E41.2 Illumination E 41.3 Noise	**10** **15)**			
E43	First aid Facilities and Occupational Health Centre (OHC)	**20**	**E44**	Periodic Medical Examination	**25**
E45	Occupational Disease	**10**		**Total E**	**95**

F. ACCIDENT/INCIDENT REPORTING, INVESTIGATION AND ANALYSIS

No	Sub-element	Marks	No.	Sub-element	Marks
F46	Accident Reporting,	**15**	**F47**	Accident Investigation	**45**
F48	Analysis of Accidents	**50**	**F49**	Implementation of Recommendations	**30**
F50	Reporting & Investigation of Near -miss Incidents	**10**		**Total F**	**150**

G. EMERGENCY PREPAREDNESS (ON-SITE)

No	Sub-element	Marks	No.	Sub-element	Marks
G51	Site specific details, Identification of emergencies and accident scenario, Updation of emergency plan	**20**	**G52**	Medical care	**5**
G53	Periodic Drills/ exercises	**20**	**G54**	Emergency Control Centre	**5**
				Total G	**50**

H. SAFETY INSPECTION

No	Sub-element	Marks	No.	Sub-element	Marks
H55	Inspection Programme	**50**	**H56**	Methodology & Inspection Team	**40**
H57	Safety Audit	**15**	**H58**	Compliance of Recommendations	**25**
				Total H	**130**

10 JUSTIFICATION OF PERCENTAGE SHARE OF MARKS

Sustainable building practices, with concrete being one of the most used construction materials, consider health and well-being of human beings, fauna and flora, in addition to the traditional criteria of function, cost and aesthetic. The responsibility to care for the workmen (as per the definition of the factories act) in terms of safe working ambience and procedure to sustain good health is also part of the business. Safe and uninterrupted production improves productivity and motivation of the workers.

1) Since the primary responsibility of designing, maintaining a safe workplace, aiming a safe way of working and providing infrastructure as well as fund lies with the management, maximum marks have been allotted to OHSM system. Majority of its sub-elements are backed by the statutory requirements in the Factories Act 1948 such as - preparing the Health and Safety Policy, formation of safety organization, constitution of safety committee, holding safety committee meetings, using work permit system for hazardous jobs, safety training for hazardous operation. Importance has also been given for some good practices such as safety promotional scheme. Over the years it has been found that putting forth even the statutory requirements are tough and challenging job. The current school of thought believes that “safety culture’ is one of the most important factors in establishing excellent safety system in plant – which encompasses the attitude of the management towards safety and the percolation of the attitude to the workers. For establishing guidelines on safe working and preventing accidents - preparation of safety manual, preparation of safe operating procedure and most importantly safety training for each job are essential and are included in OHSMS.

Slightly above than 25% of the total marks on Safety rating are reserved for OHSMS. Out of the 245 marks for OHSMS, maximum is for the declaring and honoring the implementation of OHS policy. In order to know in advance the hazard and analyzing it – suitable hazard Identification system need to be adopted. Hence Hazard Identification is significant next to OHSMS policy. In Ready mix plant the use of PPEs plays an important role has similar weightage as to Hazard Identification.

To operate a plant safely and make workers(coming from different background and different qualification and experiences) aware of the hazards in the unit and essentially to make a trained workgroup, there is need for training including that of top management. Hence safety training is of significance.

Safety organization and Safety culture, Medical management of Accidents, OHSMS organization, Work permit system, Contractor Safety System are in the same weightage (accidents statistics reveals that the rate of accident of contractor workers are 4/5 times more compared to that of regular employees).

2)Hazards in any organization are divided into Physical hazards and the Chemical Hazards. The Physical hazards include Machine guarding, Material handling, Electrical hazards, Hazards assessment of new equipment, Working at height etc. Chemical Hazards include the Transportation of hazardous substances, the use of MSDS, Storage of chemicals, Gas cylinder safety, Spillage control etc. As the physical hazards are more prominent in Ready Mix companies it accounts for approximately 18% weightage whereas chemical hazards are 6.3%.

On the other hand though the probability of incidence of multiple injuries from physical hazards are less the damage due to 'working at height', 'injury from electricity' portray a very high percentage among all injuries – indicated in the scoring. For Chemical Hazards the transportation of chemicals and the flammable chemical handling and storage are of primary concern. The handling of hazardous substances including that of gas cylinder safety are next important aspects in establishing good chemical safety.

3)Fire safety is contributing around 5% of the total weightage. In fire safety system Organisational setup for firefighting plays an important role. The other important aspects in fire safety are in handling flammable materials and the detection and alarm system to inform about fire in advance.

4) Industrial hygiene and occupational health are of concern in Indian scenario and number of victims in occupational diseases cross the number of occupational injuries. Around 10% of weightage is allotted to this element.

5)Accident Incident Reporting, Investigation and Analysis is not only an indicator of safety standard in plant but it is also major tool in improving safety. Investigation and analysis are also backed by statutory provisions in all major legislations such as the Factories Act, the Petroleum Rules, the Explosive Act and Rules, the Boiler Act etc. Reporting of accidents, its investigation, analysis and implementing the recommendations are part of this element. As per Heinrich's theory on accident analysis the number of accidents are the tip of iceberg, the base of the icebarg are the near misses. The ratio of any accident to the corresponding near misses are generally very high, hence industries which aim for accident reduction and high standard of safety need to monitor the

near misses. Around 16% of the total score is kept for Accident Incident Reporting and Investigation.

6) The safety inspection is the internal assessment of the safety status and is a step towards improvement. Hence the subject is addressed as a separate element. More than 13% of the total score is allotted to the safety inspection.

7) The Emergency Preparedness contributes around 5% of the total score though it is a very important element in reducing number of injuries or consequences in case of any accident. Availability of site specific details the postulated scenarios, the allocation of duties with drill on emergency situation are the key sub-elements. The system of improving the emergency preparedness with the feedback from the drill recommendation is another important step.

11 METHODOLOGY

A. Pre-Visit

1. Study the Safety Rating Manual.
2. Collect the appropriate site information.
3. Prepare a visit plan detailing the allocation of time (in terms of man-hours) for each of the sections / activities.
4. Understand the scoring scheme thoroughly.

B. Site Visit:

1. Conduct an opening Meeting
    i. Briefing the Safety Rating System
    ii. Methodology
    iii. Visit Plan
2. Field visit to get the idea of safety status in the plant
3. Discussion with management for realizing the management culture
4. Discussion with workers to know the working condition, the work culture, workers perception about management etc.
5. Checking the document as mentioned in Table 3 and also any other relevant documents for the purpose of assessing the plant and filling the questionnaire.
6. Scoring the questionnaire and filling up Table 3 (details of scoring is provided in next section) Table 4 and Table 5.
7. Categorizing the unit for Safety Rating system
8. Feedback meeting with management to brief about the major achievement as well as areas for improvement
9. Preparing the Report as per Item number 5

C. Post Visit

1) Preparation of the Safety Rating Report with Score in each element.
2) Issue of Certificate.

12 SCORING QUESTIONNAIRE/CHECKLIST.

Score of the Questions should be noted in Table 3 first. The columns in Table 3 are as follows:

Column 1 Elements and References
Column 2- Maximum Score for that question
Column 3- Actual Score for question
Column 4- The question to be asked
Column 5- Verify
Column 6- What to Look for
Column 7- Space for noting- for Assessors

While scoring the "questions" in column 4, two adjacent columns number 5, 6 need to be looked into for each sub-element. The **"Verify"** column indicates the minimum requirements to be checked - at site, in documents or while discussing with workers etc. The assessor may check further documents or discuss with more number of persons or check at site in order to justify scoring.

The overall expectation or the philosophy of the sub-element is mentioned in **"What to Look for"** column (no 6) in the table.

This Safety Rating is purely based on the score obtained by installations. Hence meticulously scoring is important to judge the safety status of any installation.

The manual has tried to reduce as much as possible the subjectivity in scoring. Hence in many questions maximum marks allotted as (0,6) or (0,8). Which specifies that the assessor should assign either 0(zero) mark or maximum marks(6 or 8). In case of single mark(2,4,5,6 etc.) subjectivity is left to the assessor based on the columns **"What to Look for" and "Verify" column**.

For each sub-element a column on "**Comment"** is provided to note down in support of the scoring. In fact the assessor is encouraged to note in each sub-element, if possible.

For the use of the Assessors (Auditors) each element has been backed by the Statutory Provisions as reference (Colum1), which need not be mentioned in the report. In order to address some state Factories Rule as reference we have chosen Maharashtra Factories Rules and A.P. Factories Rules (choice is purely based on availability of the documents at that time). Other State Factories rules also more or less confirm to the clauses.

TABLE 3 - CHECKLIST FOR SCORING

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
A. OH&S Management						
A1. OH&S Policy *Ref :1) FA, 2)SFR, 3)BOCW Acts and Rules*	**5**	0, 5	a) Does the RMC plant have OH&S Policy?	• Copy of policy signed by top management and displayed • A system for distribution and awareness to the workers • Responsibilities of each group of employees mentioned as a part of safety policy • Ask at least two persons whether they are aware of policy and its usefulness	Whether top management is concerned in policy making and its implementation	
	5	0, 5	b) Whether the OH&S policy is signed by Occupier/Employer?			
	3		c) Whether the OH&S policy is as specified in statutory provisions?			
	3		d)Whether the OH&S policy is reviewed and revised periodically and particularly in case of maintenance/ modification/ change in substance and processes / machinery?(Ref 1) 7A)			
	3		e) Whether the OH&S policy is also available in local language or in the language understood by majority?			
	3		f) Does the policy or resume of OH&S find a place in the annual report?			
	3		h) Is there any system for creating awareness for the policy? And are the people aware?			
	T 25					
A2. OH&S Organizational Set Up						
A2. 1 Safety Department *Ref : 1)FA- sec 40B 2)SFR Rule 7.2, Maharashtra Rules, 3)The State Safety Officers Rules, 4)The*	**5**	0,5	a) Does the RMC plant have a safety coordinator?	• Safety department in organization structure. • Talk to safety personnel about their reporting, their responsibility and the	Existence of OH&S organization structure with competent manpower and support from top management	
	4	0,4	b) Whether the safety coordinators upto the requirement of the plant?			
	4	0,4	c) Does the safety coordinator report to the Head of the unit ?			
	2	0,2	d) Whether safety officers' duties are defined and documented?			

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
A.P. Factories Rules no 61A	**T 15**			management support, intervention in safety observation. • Verify the planning in safety section towards improvement such as reduction strategy of FR/SR or training calendar or new activities		
A2.2 Safety Committee *Ref : 1)FA,* *2)SFR,* Maharashtra FR Rule 73 J, *The A.P. Factories Rules no 61(SG) A* *3)The State Safety Officers Rules,* *4)The A.P. Factories Rules no 61A*	**2**	0, 2	a) Does RMC plant have safety committee(s)?	• Minutes of safety committee meeting • Implementation status of the minutes • Whether any action plan been prepared for implementation.	Safety committee is involved in all safety aspects of plant for the purpose of improvement of the safety status of industry	
	2		b) Does the committee meet at least quarterly			
	1	0, 1	c) Are the minutes forwarded to the chief executive and occupier?			
	T-5					
A3. Safety Manual *Ref : FA Sec-7A Sec 111A*	**2**		a) Is safety manual prepared covering all the hazards	Safety manual copy, its availability	Utilization of the safety manual in training	
	2		b) Is safety manual reviewed periodically (in case of maintenance/ modification/ change in substance/ processes / machinery)?			
	1		c) Are the employees of RMC plant made aware of safety rules/ instruction mentioned in the safety manual?			

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
	T 5					
A4. Safe Operating procedure *1)FA Sec-7A 2(a,b,c) & 7B1c (iii), 111A*	**5**		a) Are written safe operating procedures available for all operations?	Random checking at least 1 procedure for major/hazardous activity - whether work procedure matching with operating procedure Availability of operating procedure in control rooms(or at place of operation) Knowledge of the operators about the document	Safe Operating procedures are laid down and workers are aware of the documented safe procedure and there is enforcement of its use.	
	5		b) Whether the written SOP made available and explained in the local language to the workers?			
	5		c) Have the workers been informed of the consequences of failure to observe the safe operating procedures?			
	T-15					
A5. Plant Modification Procedure *1)FA Sec-7A,* *2)SFR,(Maharashtra FR 73L, AP FR 61(SB)A)*	**5**		a) Whether the Plant modification system is documented and information shared?	• Verify whether written procedure is available to authorize any modification in plant	Whether change management system is introduced to reduce the possibility of injury in minor or major due to change in procedure, equipment or in manpower .	
	T 5					

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
A6. Work Permit System *1)FA Sec-7A, 2)SFR,(Maharashtra FR 73F, 3) The Manufacture Storage and Import of Hazardous Chemicals Rules 1989/2000)*	**5**	0,5	a) Whether types of work permits are commensurate with the activities (maintenance, construction etc) in RMC plant?	At least two work permits in work place and in control room to be verified (at random) To look into the date of issue of work permit , provision of safety precautions viz. authorization of the permit, validation/ extension etc.	Hazardous works are classified and details of safety aspects are taken care in liaison with various sections of the plant for electrical isolation, mechanical /instrument maintenance/shut down of operation	
	5		b) Is the responsibility assigned to authorize person for issuing work permit?			
	5		c) Is validity period specified in the work permit?			
	T 15					
A7. Contractors' Safety System *1)FA Sec-7A,* *2) BOCW Act and Rules*	5		a) Are the contractors reporting accidents & injuries?	Procedure for selection of contractor(company) Visiting the site to look into actual working condition of workers and interviewing about the safety concepts. Talking to contractor person working in operation –about the hazard and safe operating procedure. Looking into the near miss incidence record and the injuries at work place.	A safe working condition for worker equivalent to the company worker (as definition of worker in the Factories Act is applicable to both contractor and employees.)	
	5		b) Are contract workers trained to observe safety at work place?			
	5		c) Whether contract workers are engaged in process/ operations? If yes, are they aware of safe operating procedures?			
	T 15					
A8. Plant Design and Layout	5		a) Is the approved layout of RMC plant by chief inspector available and is same as that of existing layout.	Plant and equipment layout plan	Incorporation of safety aspects in design layout to	

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
1)FA Sec-2cb), *2) The Manufacture Storage and Import of Hazardous Chemicals Rules 1989/2000)-Schedule 8*	**5**		b) Are all the equipment provided with adequate space for working, maintenance etc.	Visit of all the areas to get a feeling of segregation of hazardous operation, safe operating space and space for maintenance/fire fighting.	provide enough maintenance area. To protect plant from domino effect (effect of one incident leading to another one because of proximity)	
	5	0, 5	c) Whether RMC plant layout has taken care of the movement of firefighting equipment and emergency exits?			
	T 15					
A9. Medical Management of Accidents *1)FA Sec-2cb),* *2)SFR,(Maharashtra FR 73X, AP FR 61(SC)C)*	5		Does RMC has any tie up with some hospital for medical facility of their employee	Arrangement to carry victims in case of accident, arrangement in medical centre to provide immediate emergency care as mentioned in Factories Rules Up to date arrangement for medical management. Verification on availability of medical facilities from workmen.	Management intervention in facilitating the prompt treatment to accident victim.	
	5		Does RMC has arrangement for medical management of accident at plant and also each operating sites?			
	5		Does the workmen aware of the medical facilities?			
	T-15					
A10. Employees Selection and Placement *1)FA Sec-7A,41-B),* *2) SFR,(Maharashtra FR 73L, AP FR 61(SB)A)*	**5**		Is there a system of considering safety and health aspects in decisions involving employee selection and placement	Check at the norms for recruitment for operator in critical area and verify the actual qualification/experience of the of operator	Recruitment of healthy and competent person in the workplace	
	T-5					

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
A 11. Safety Culture						
A 11.1 Commitment of Management *1)FA Sec-111),* *2) SFR,(Maharashtra FR 73J, 73 L, AP FR 61(SA)A, 61(SB)A*	10	0, 10	a) Do the managers of RMC follow the plant safety rules at all times?	Discussion with safety officers and managers about safety status in plant, usefulness of inspection and audits carried out, contribution and attitude towards workers. Is there a system of monitoring the implementation of recommendations of safety inspection /suggestion, audit etc.	Management feel that safety is integral part of the production procedure. Management has faith and commitment to safety.	
	5		b) Whether the attitude of the managers towards non use of personal protective equipment is strict?			
	T-15					
A11.2 Attitudes of workers *1)FA Sec-7A,*	3		a) Whether workers are aware of the consequences of their wrong actions?	Discussion with at least 2 workers about the safety status of plant, the attitude of management towards safety and the action taken to make a safe environment. Verify at least one operating procedure with actual working procedure/ methodology	Workers should feel that using safe procedure is a part & parcel of their job and is beneficial to them.	
	3		b) Are safe working procedures followed strictly?			
	4		c) Do the workers report near miss incidents and suggest safety improvements?			
	T 10					

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
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A12. Statutory Licenses, Approvals and Records *1)FA section 108* *2) SFR,(Maharashtra FR 118*	5		a) Whether the List of applicable acts and the safety related Acts / Rules applicable to RMC Plants prepared?	Availability of list of Acts and Rules for the purpose of monitoring the licenses / approvals etc. Verify at least 2 licenses including consent from State Pollution Control Board whether renewal is validated.	Statutory Requirements are fulfilled	
	5		b) Whether the licenses have been validated?			
	5	0,5	c) Is there any safety related court-case/litigation or proceedings continuing in last one year?			
	T 15 **MT**					
For question c) if the answer is 'yes' score is zero –if 'no' the score is 5						
A13. Communication, Motivational and Promotional Measures for OH&S *1)FA 7A* *2) SFR,(Maharashtra FR 73 L, AP FR 61(SA)A*	2	0,2	a) Does RMC Plants participate in any National competition as a part of safety promotional measure at least once in a year?	Evidence of promotional measures, such as competitions, slogans etc. for spreading information on safety award, accident statistics etc. *Safety bulletin/ Newsletters once in a quarter : Marks 4* *half-yearly: Marks 2* *in a year: Marks 1*		
	2		b) Whether the safety bulletins published and posters displayed in the company for safety awareness purpose?			
	2	0,2	c) Has the factory been awarded during last five years?			
	2		d) Are employees rewarded for good safety performance?			
	2		e) Are Safety promotional campaign such as NSD are undertaken			
	T -10					
A14 Hazard Identification and	10		a) Whether OHS hazards are identified (e.g. physical, chemical,	Verify the documents of Hazard Identification	Detailing of the safety provision -in	.

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
Risk Assessment *1)FA 7A,* *2) SFR,(Maharashtra FR 73 L, 73 N, AP FR 61(SA)A, 61(SB)A)* *IS18001- Occupational Health and Safety Management System- Requirements with Guidance for Use.*			etc.) with the established technique/s?	Check the status of implementation of the recommendations of the above mentioned techniques / methods	each stage of job is being taken care.	
	10	0, 10	b) Whether planning has been made to prevent these hazards to cause injury, health hazard or environment degradation?			
	T-20					
A15. Product Safety 1)FA 7A, 7B, 41B *2) The Manufacture Storage and Import of Hazardous Chemicals Rules 1989/2000 Rule 17* *3) Hazardous Waste(Management, Handling and Transboundary Movement) Rules 2008*	**5**	**0, 5**	Whether policy exists for recall of hazardous/ dangerous products and whether safety provisions maintained in disposing/using the rejected/?	Whether quality of product is monitored and the safety provisions for disposing the chemicals are there.	In depth knowledge about the hazards in intermediate and final products , Identification of the areas of concern - where the products returned are handled with care	
	T-5					

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
A 16. Safety Training *1)FA 7A, 41B, 111A* *2) SFR,(Maharashtra FR 73 L, 73 N, AP FR 61(SA)A, 61(SB)A)*	6		a) Is there any program of induction training on safety, its duration and topics covered?	Verify induction and regular training programme schedule on health and safety- the compatibility and duration. Verify the qualification and experience of the trainer. Verify periodic training programme with introduction of new hazard system etc.	Workers working with different background and qualification need to be informed and trained about the hazards and how to take protection against the hazard.	
	5	0, 5	b) Whether records of safety training program conducted are maintained?			
	4		c) Are the retraining needs identified whenever a new process/products and change in existing process introduced?			
	T 15					
A. 17 Personal Protective Equipment and Emergency Equipment	4	0, 4	a) Is there a list of required PPE for each hazardous activity available?	• PPEs used and their physical condition for two employees and two contract workers • Use of suitable face mask for dust atmosphere viz cements lime etc.	Plant is equipped with useful PPEs. PPEs are maintained issued as per requirement. Workers are knowledgeable on selection and use of PPE's	
	4	0, 4	b) Whether feedback from workers obtained during selection of PPE?			
	4		c) Does the executives and workers use PPE's while at work?			
	3		d) Is there any arrangement for safe custody and storage of PPE?			
	5		e) Do the PPE conform to BIS standards?			
	T 20					

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
B. PHYSICAL HAZARD						
B. 18. House Keeping *1)FA 7A,Sec 11,12,14*	3		a) Are all the passages, floors and the stairways in good condition, clean, free of dust, refuses etc?	Overall cleanliness, place for tools, scraps, schedule for cleaning, procedure for disposal and actual implementation. Device for spillage accumulation Scrap yard arranged properly. Is there any housekeeping survey/inspection, competition/5s system etc.	A system devised by management where there is a place for every item and every item in its place – in normal operation. In case of abnormal operation whether systems are prevailing to take prompt action in bring to a good house keeping.	
	3		b) Is there sufficient disposable bins clearly marked and suitably located? Are containers of refuse emptied daily or when full?			
	3		c) Are there designated places for items such as tools /tackles/chemical/ scrap etc.			
	2		d) Whether walkways are clearly marked and free from obstruction?			
	1	0,1	e) Are the working conditions makes the floors slippery?			
	3		f) Does plant have measures to suppress polluting dust arising out of materials stored in open areas?			
	T 15					
B. 19. Machine and General Area Guarding *1)FA 21,22,26,32* *2) BIS 9474-1980*	8	0, 8	a) Are the moving parts and point of operation of concrete pump adequately guarded?	At least two safety interlocks and two machine guards need to be checked about their operability.	Whether hazards arising due to machine are protected from workers. Whether interlocks are operating.	
	5		b) Are the fixed guards securely bolted in position and in good condition?			
	5		c) Are the interlock guards in conveyor belt (for prevention of physical injury) in working			

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
			condition?			
	4	0, 4	d) Are the emergency stop buttons effective and clearly labeled?			
	3	0, 3	e) Are the operators for concrete mixture and other machines having moving parts aware of the danger of working with loose clothing?			
	5	0, 5	f) Are the openings where there is free fall hazard covered or fenced securely by railing, toe guards etc?			
	T 30					
B. 20. Material Handling *1)FA Sec 28,29,34* *2) SFR,(Maharashtra FR 62,63,64, AP FR 55, 55A)*	3		a)Whether adequate mechanical devices are used for handling major/heavy material?	Awareness about hazard on manual material handling to be discussed with at least 2 workers – whether training is imparted about procedure of material handling. Check the record of testing of at least one material handling equipment – whether the testing and the records are as per the statutory requirement.	Minimisation effort of manual material handling and safety while using material handling equipment. Following the norms of maximum weight to be carried by workers. Testing and examination of material handling equipment as per statutes.	
	4	0, 4	b)Do the workers know the hazards associated with manual material handling?			
	4		c)Where manual handling is necessary, are the workers trained and using the proper method? (Maximum weight of material for adult male and female are 55 Kg and 30 Kg respectively)			
	5		d) Are the materials stored and stacked safely?			
	4		e)Are all the lifting machines, chains, ropes and lifting tackles (lifting appliances) identified by number and tested & marked accordingly?			

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
	T 20					
B.21.1 General Electrical Safety **1)** *Central Electricity Authority Regulations 2004* *2)Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations 2010- regulation number 3,4,28,35,74* *2) Lighting protection system 2309- 1989* *3) Rubber Mat- 5424 - 1969*	3	0,3	a)Are authorized electricians available for electrical work?	• List of licensed electrical operator • Checking the electrical fitting conform to area classification • Use of ELCB, MCB • Look into make shift connection is any • Periodic inspection and maintenance procedure • Use of work permit/ LOTO system in isolation of power • Verify protection against earthing Megger test report and earth pit resistance report.	Awareness about safety in using electrical system by electrical operators(maintenance personnel) as well as general operations. Management system of use of safety equipment for electrical system such as ELCB, MCB, earth pit etc.	
	3	0, 3	b) Are all connections made by using appropriate plugs, receptacles or enclosures? Are fuses provided?			
	3	0, 3	c) Do the workers use PPE during the working on live line?			
	3	0, 3	d) Whether lightning arrestor has been installed and is adequate?			
	3	0, 3	e) Whether drawings with respect to electrical system such as cable layout for installation, single line diagram are available and approved with authorized signatory?			
	2		f) Whether danger notices / sign boards have been displayed at critical areas?			
	2		g) Whether shock treatment chart has been displayed at critical installations such as electrical substation, MCC room etc. ?			
	3		h) Whether provisions of electric fire prevention / suppression / mitigation systems available?			
	2		i) Whether emergency electric fire scenario has been included in emergency response plan and safety manual?			

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
	2		j) Whether emergency lighting system is available?			
	2	0,2	k) Is there a provision for electrical safety training to workers and employees?			
	2		l) Whether rubber mats are used near high voltage switch board, switch gear/ installations.			
	T 30					
B 21.2 Electrical Safety During Operation / Maintenance *1)Central Electricity Authority (Measures relating to Safety and Electric Supply)Regulations 2010 6,7,8,9,10,11,18,19,28,41, 42,48,49,74,115,* *2)Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2010-- 36.8* *3) The FA and State Factories Rule(Maharashtra FR 70, APFR 61)* *4) 5216-1982 Part-I*	3		a) Whether earth pit resistance is measured and the record maintained?	• Periodic inspection and maintenance procedure • Record of periodic inspection by electrical inspector • Visit of the earth pits its numbering and physical condition • Work permit system of electrical work on high voltage line • Record of periodic inspection of hand tools, electrical cable/ wiring /connection etc. • Use of ELCB, RCCB/MCB with electrical installation	A safe operation and maintenance procedure while working in electrical system	
	3		b) Whether physical conditions of earth pits are maintained?			
	4		c) Is there a earth leakage protective device system (ELCB/RCCB/MCB etc) in use for to every electrical installation other than low voltage installation viz. 5Kw?			
	3		d) Is the separate work permit issued for working on high voltage line – use of LOTO system?			
	3	0, 3	e) Whether electric equipments / installations have been provided with double earthing?			
	3		f) Is there a system of periodic inspection of hand tools, extension boards for working in electrical lines?			
	3		g) i) Is there a system of inspection of electrical cable/ wiring			

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
			/connection?			
	3		h) Is there any system for maintaining housekeeping at electric installations areas?			
	T 25					
B. 22. Safety in Storage and Ware Housing 1) *BOCW Central Rule 187* 2) *Manufacture Storage and Import of Hazardous Chemicals Rules 1989* 3) *The FA and State Factories Rule(Maharashtra FR 70, APFR 61)*	1		a) Are the chemicals stored as per their hazardous properties and also considering the compatibility?	Check MSDS for one known chemical and one uncommon chemical and see the date of adoption of MSDS. Check the fire safety measures conforming to MSDS Check how the toxic chemicals are handled – availability of detectors in stores. Check the compatibility of chemicals stored. Check the method of spillage control.	Minimising health and safety effect of chemicals in the ware house during handling and also from fire - with the help of proper layout, housekeeping and detection and mitigation	
	2		b) Whether materials stored in warehouse are away from the wall (minimum 1 m gap is kept between wall and the racks).			
	2		c) Whether all racks and steel cages have sufficient load bearing capacity?			
	1		d) Is there adequate natural ventilation provided to store room?			
	2		e) Is there any emergency exit?			
	2		f) Whether required fire fighting arrangement is provided in flammable chemical storage?			
	T 10					

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
B23. Hazard Assessment for New Equipment *(Refer A5 if these aspects are covered you may not assess here)* *1) The FA 1948 section 7A,&B, 41C and* *2) SFR,(Maharashtra FR 73L, AP FR 61(SB)A)*	5		Whether there is the system for assessing the safety -related aspects while bringing any change in the existing plant, equipment?	Checking at least one new equipment and the hazard assessment of it. Check update of operating procedure.	Compatibility of new equipment vis-à-vis the operator knowledge and skill, the plant layout drawing, the operating procedure.	
	T-5					
B24 Control Measures for Work at Height *1) BOCW (Regulation of Employment and Condition of Service) Act, 1996,* *2) BOCW (Regulation of Employment and Condition of Service) Central Rules 1998 Chapter XIV, XVI, XVII, XIX* *3) SFR, (Maharashtra FR 73F, AP FR 61D)*	2		a) Is adequate safe access provided to all places where workers need to work?	• Verify at-least four places of working at height for good scaffold, good working platform. • Verify certification and slope of ladder etc. • Check the status of using full body harness and the provision of lifeline • Check work permit for working at height. • Check the supervisors comment on the scaffold erection, condition of safety belt, use of	Chance of fall from height is reduced to zero and safe access/egress arrangement is there.	
	2		b) Are all such access in good condition?			
	2		c) Whether provision of anchoring of life line is provided?			
	2		d) On sloping roofs are crawling boards, lifelines, safety belts and edge protection provided where ever needed?			
	2	0,2	f) Whether work permit procedure is existing for working at height?			
	T 10					

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
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				safety net etc.		
B 25. Work in confined space *1)FA Sec 36* *2) SFR,(Maharashtra FR 73H, AP FR 59)*	2	0, 2	a) Are the confined spaces in RMC Plant identified?	• Verify whether jobs related to confined space has been identified. • Check the parameters in Permit system to work in confined space	Ensure a safe place with good ventilation, lighting while working in confined space	
	2	0, 2	b) Is work permit system followed for working in confined space?			
	2		c) Whether monitoring of the atmosphere inside the confined space is carried out and ensured that there is no flammable or toxic gas or deficiency of oxygen in the area?			
	2		d) Whether arrangement for required illumination is made while working in confined space?			
	2		e) Whether the person entering the confined space is using a suitable PPE?			
	T 10					
B- 26- Stability of Structure	**5**		a) Is stability certificates available for structural steel work, silos	• Structural stability certificate issued by registered structural engineer to be checked • Corrosion preventions measures are taken or not	• Structures are stable and certified • The structures are maintained to prevent corrosion of structural steel and reinforced concrete.	
	5		b) Is there any measure to prevent corrosion for steel structures			
	5		c) Is there any maintenance schedule for the structural components in the Ready Mix Plants			
	T-15					

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
C. CHEMICAL HAZARDS						
C 27. Transportation of hazardous substances *1) Central Motor Vehicles Rules 1989 132,133,134, 135*	2		a) Whether the drivers transporting Ready mix concrete for company (either own / outside sources) are licensed and endorsed by RTO for such transportation and whether the vehicles are registered?	• Verify healthiness of road tankers, • Training record of ttruck drivers • Talk to truck drivers to know about their knowledge in case of any mishap • Check the HAZCHEM code followed by company whether standard codes are used or any other .	Safe transportation without causing harm to the surrounding and the ambience while traveling and transporting.	
	2		b) Whether the condition of the vehicles and the equipment in the vehicle are assessed during each transit?			
	2		c) Are the transfer of ready mix concrete from twin shaft mixer to TM (Transit mixers) is in adherence to safety precautions as displayed?			
	2		d) Are loaded tankers or trucks parked in a specific area on-site?			
	3	0,3	e) Whether TM drivers are trained by company in handling emergencies during transport?			
	2		f) Whether the route of the transport is planned by RMC Plant and instructed to the drivers?			
	2		g) Is chute of transit mixer having locking arrangement.			
	T-15					

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
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C.28 Handling of Hazardous Substances/Chemicals *1) The Factories Act 1948 Section 7A, 41C* *2) Manufacture Storage and Import of Hazardous Chemicals Rules 1989*	3	0,3	a) Whether the employees are aware of the harm/consequence arising from handling of hazardous substances?	• Whether quantity of hazardous substances is above the threshold limit specified in the MSIHC Rules 1989 /2000? • Written procedure for handling hazardous substances • Discussion with workers about hazards and the training imparted	Employees awareness about hazard and care taken by management for the workers to adopt and ensure a safe handling procedure for chemicals. This includes manual handling, machine handling, the exposure possibilities and the precautions taken.	
	2	0,2	b) Whether written procedure for handling the hazardous substance is available?			
	T 5					
C 29 Material Safety Data Sheet *1) The Factories Act 1948 Section 7A, 41B/C* *2) SFR, (Maharashtra FR 73M, 73 R)* *2) Manufacture Storage and Import of Hazardous Chemicals Rules 1989*	2		a) Are the material safety data sheets available for all the chemicals handled, used and manufactured in M/S RMC Plant?	MSDS of at least one common chemical and one uncommon chemical – whether they are updated and find the safety measures being followed. Whether employees(at least two workers) are aware of the meaning of the terms used in MSDS and the hazards and precautions related to the chemicals.	Awareness and usefulness of MSDS in handling chemicals	
	2	0,2	b) Whether training arrangements are available for educating employees ion MSDS?			
	1		c) Whether the MSDS are displayed at strategic locations in RMC Plant?			
	T 5					

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
C. 30 Spill Control Measures *1)The Factories Act 1948 Section 7A, 41B/C* *2) SFR, (Maharashtra FR 73M)* *3)Manufacture Storage and Import of Hazardous Chemicals Rules 1989*	5		Whether spill control procedure is available and practiced?	• Verify availability of written down procedure • Whether emergency drills are practiced for spill control measures	Measures to detect any spillage, liquid/gas , prevent contact with human and environment.	
	T 5					
C.31 Gas Cylinder Safety *1)FA Sec* *2) SFR, (Maharashtra FR 65, AP FR 56)* *3) The Gas Cylinders Rules 2004* *4) The Explosive Act 1884*	1	0,1	a) Is there a list of gas cylinders used in RMC plant?	• Licenses for gas cylinders • Area of storage for chemicals, whether compatibility of storage is there • Whether there is any chance of accumulation of flammable gas in the storage. • Method of transport of cylinders.	The hazards related to compressed gas cylinders are known to all employees and measures are taken to protect people from any loss of containment related to gas cylinder.	
	3	0,3	b) Are valid licenses available for storing all these cylinders?			
	2		c) Are the cylinders stored and segregated as per their compatibility?			
	2	0,2	d) Are the cylinders chained and secured properly along with the valve caps and proper identification colour code?			
	2	0,2	e) Are the cylinders carried with mechanical device(trolley etc) or by rolling on ground			
	T 10					
C.32 Labeling and Painting *1)FA Sec 41C* *2) SFR, (Maharashtra*	5	0,5	a)Are all the containers, vessels and storage tanks labeled for their content and capacity?	• At least twovessels and pipelines in two areas where colour coding are as per BIS 2379.	Identification of all equipment and pipeline with color code and numbering to bring into notifice and	

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
FR 73M, AP FR 61(SB)B) *5) BIS 2379 1990- Color Code for Identification of Pipelines*	5 **T 10**		b)Whether there is a periodicity of maintaining/replacing the labels?	• Whether equipment number has been used in operating manual	ease of operation and maintenance	
C.33 Hazardous Waste Management *1)The Hazardous Wastes (Management, Handling & Transboundary Movement) Rules, 2008* *2) The Biomedical Waste (management and Handling) Rules 1998* *3) The Batteries (Management and Handling) Rules 2001/2010* *4) The radioactive Waste Management Rules*	5 5 **T 10**		a)Are the hazardous wastes identified and the segregated as per the types? b)Are the safe modes of disposal specified by company?	• List of hazardous wastes generated and the quantities • Written down procedure for disposal	Waste generated from plant are identified categorized as per The Hazardous Wastes ((Management, Handling & Transboundary Movement) Rules, 2008 Hazards from plant is not transferred to other area without the knowledge and consent of other organisation	

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Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
D. FIRE & EXPLOSION HAZARD						
D. 34 Organisational Setup for Fire Fighting *1)FA Sec 38* *2)SFR, (Maharashtra FR 70,71B, AP FR 61)* *3) Tariff Advisory Committee – Fire Protection Manual I, II*	3		Whether there is fire organizational set up in the plant?	Fire organization and their reporting Availability of fire order List of fire incidences and their analysis	A system for fighting fire. Management commitment towards fire safety	
	2		Does emergency procedure available to arrest leakage or combustion of flammables?			
	T 5					
D.35 Built in Safety in Civil Design and Construction *1)FA Sec 38* *2)SFR, (Maharashtra FR 70,71B, AP FR 61)* *3)Tariff Advisory Committee – Fire Protection Manual I,II* *4) BIS - NBC- Chapter iv*	3		a)Whether the two safe means of escape are available? Are they in separate directions?	• Check exits, • check access route for fire tender • Check whether ventilation pattern has taken into account the generation of flammable vapor , if any	Building layout and design would take into account the fire prevention strategy and protect fire from spread	
	2	0,2	b)Whether emergency lights are provided?			
	T 5					

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
D. 36 Fire Detection and Alarm System *1)FA Sec 38* *2)SFR, (Maharashtra FR 70,71B, AP FR 61)*	5		Whether fire detection systems are available where flammable materials are stored?	• Fire Detectors in the fire prone area, the range of detectors to detect below LFL • Record of checking the operability of the detectors	Fire protection measures are existing in the form of good detection and alarm system	
	T -5					
D. 37 Portable Fire Extinguishing System *1) Tariff Advisory Committee(TAC) Fire Protection Manual Part I* *2)National building Code Part IV* *3)FA Sec 38* *4)SFR, (Maharashtra FR 70,71B, AP FR 61)* *IS 2190- Code of practice for Selection, Installation and Maintenance of Portable Fire Appliances*	6		a) Whether suitable type and numbers of fire extinguishers provided as per IS 2190?	Logic behind placing the fire extinguishers. List of fixed fire extinguisher with identification mark	Plant is equipped with portable fire extinguishing systems that are operable, accessible and employees are able to operate.	
	6		b) Whether the fire extinguishers are located at conspicuous position and easily accessible and are fully charged and tagged?			
	4	0,4	c) Whether fire extinguishers periodically inspected, tested, refilled and records maintained?			
	2		a) Whether defective/ unchecked fire extinguishers present at site?			
	2		b) Whether additional fire extinguishers are available?			
	T 20					
D. 38 Fire Fighting Equipment and	2		Is there a proper access available for firefighting equipment?	a) Availability of fire	Plant is equipped with firefighting	

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
Facilities *1)Tariff Advisory Committee(TAC) Fire Protection Manual Part I* *2)FA Sec 38* *2)SFR, (Maharashtra FR 73 N, AP FR 61(SB)C)*	2		Whether fire buckets are available with dry sand, in a shed?	equipment as per design b) Check the fire hose reels and SCBA at at least two random locations c) Maintenance record of fire equipment	equipment to tackle fire even of larger size	
	1		Whether there is system of mutual-aid scheme with outside organization to assist during emergency?			
	T 5					
D. 39 Fire Drill *1)FA Sec 38* *2)SFR, (AP FR 61, Punjab Factories Rules 66)*	**5**		Whether fire drill is conducted periodically?	• Record of Fire Drill – how the preparedness are assessed • Action taken record on the observation of fire drill	Ensuring the preparedness of the fire fighting team	
	T-5					
D. 40 Fire Fighting Training *1)FA Sec 38, 111A* *2)SFR, (Maharashtra FR 73 N, AP FR 61(SB)C,*	**5**		Are workers of RMC Plant given fire fighting training?	Record of fire fighting training of last six months. Interview with 2/3 employees about their awareness on fire fighting.	Fire fighters as well as employees are knowing about basic fire fighting training, which extinguishers are to be used , how and when	
	T 5					

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
E. INDUSTRIAL HYGIENE AND OCCUPATIONAL HEALTH						
E 41Ventilation, Illumination, Noise						
E. 41.1 Ventilation *1)FA Sec 13, 14, 41F, Second Schedule or ACGIH latest values* *2)SFR, (Maharashtra FR 22A, AP FR 17B)*	5	0,5	a) Whether ventilation study is carried out and minimum 6 air changes per hour are maintained in all workplace?	• Record of ventilation survey • Work place air monitoring to get the concentration of pollution • Record of issue of PPE's for dusty/ fume/gas generating areas and the use of the PPEs	Ventilation has been designed especially in enclosed area to maintain a healthy atmosphere taking into account the generation of dust fume, heat etc	
	5		b) Whether PPE,s are provided to all workers exposed to dust/fumes and gases and these are used?			
	T 10					
E. 41.2 Illumination *1)FA Sec 17, 41F, Second Schedule or ACGIH latest values* *2)SFR, (Maharashtra FR 35 Schedule A &B, 36, AP FR 30,31)*	4	0,4	a)Whether illumination study has been carried out for the assessment of illumination level?	• Record of illumination survey – to check whether all the areas are covered. • Talking to employees about there comfort about illumination while working • Visit of precision assembly, lab to see the illumination	Illumination is minimum as per factories Rules to have a comfortable workstation Glare need to be avoided for a comfortable workstation	
	2		b) In case of light fitting below 5 meters from the ground with brightness > 55 candle/sq inch (or 5 lambert) whether the glare is prevented to the workmen by maintaining a distance of 30 m or any other mean?.			
	2		c) Is there any system of periodical cleaning and replacing the light fittings/ lamps in order to ensure that they give the intended illumination levels?			
	2		d)Are the workers subjected to periodic optometry tests and			

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
			records maintained?			
	T 10					
E 41.3 Noise *1)FA Sec 89, The third Schedule* *2)SFR, (Maharashtra FR 114 Schedule XXIV, , AP FR 95 Schedule XXVII)*	5	0, 5	a)Whether any noise study is conducted?	• Record of noise level, • Visiting turbine/ compressor /DG set areas to find the noise level • Record of health checkup to find any person affected by NIHL	Noise generated should not be more than that stipulated by the FA/Rules(90 dBA) and measures are taken to reduce the noise and protect workers from noise related diseases.	
	4		b)Whether engineering and administrative control measures have been implemented to reduce noise exposure below the permissible limits?			
	3		c)Whether the workers are made aware of the ill effects of high noise?			
	3		d)Whether ear muffs/plugs are provided and used while working at high noise area?			
	T 15					
E. 42 Work Place monitoring for Hazardous Chemicals *1)FA Sec 7A, 14, 41F, 111A* *2)SFR, (Maharashtra FR 73M,73N(d,e,i) AP FR 17B)*	5	0, 5	a)Whether the dust, fumes, smoke aerosols & mist are monitored and kept below the TLV as per statute and records maintained?	Monitoring of work place w.r.t. the chemicals used and the dust/aerosols produced. Suitability of the detectors	Safety in workplace vis a vis protection from exposure related to dust, chemicals etc.	
	T 5					
E. 43 First Aid Facilities and	5		a)Are adequate numbers of first aid	• List of trained first aiders and their	• Identification of Occupational	

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
Occupational Health Centre *1)FA Sec 7A, 45* *2)SFR, (Maharashtra FR 73W, 73X ,76,77,78,* *AP FR 61(SC)B, 61(SC)C, 63 & 63A)*			boxes (1 for each 150 workers) provided?	training record • List Occupational diseases as per FA • Housekeeping and equipment of first aid centre. • Availability of ambulance for on call • Mutual aid scheme agreement for hospital/fire fighting services.	Diseases arising out of plant operation, protection measures are in place from occupational diseases • First aid facilities availability in plant to provide immediate medical treatment to plant personnel.	
	5	0, 5	b) Are the contents of first aid boxes replenished periodically and under supervision of some responsible person?			
	6		c) Are the first aiders qualified/ trained and are available in each shift?			
	4		d) Are the names of the trained first aiders displayed?			
	T 20					
E. 44 Periodic Medical Examination *1)FA Sec 2(cb),7A, 10, 41C* *2)SFR, { Maharashtra FR 114 (Schedule I to XXVI Form 6 & 7)* *3)AP FR 95 (Schedule I to XXXI), Form 5}*	10	0,10	a) Whether the periodical medical examination of the employees of RMC Plant, are carried out as required under statutes? (*Maharashtra FR 18A)*	List of medical examination as per hazards in the factory Records of medical examination and corrective action w.r.t the medical examination record	Plant management is aware of hazards related to occupational health and taking action. Record of medical examination which should not only be routine but also specific as per hazards	
	8		b) Are the records of periodic medical examination maintained and is accessible to respective worker?			
	7		c) Whether there is a system of analysis of the medical reports of employees vis a vis their place of work?			
	T 25					
E. 45 Occupational Diseases	4	0,4	a) Whether pre-employment medical checkup data available for all the employees?	Record of periodic examination to find whether prevalence of	Track to identify occupational disease such as	

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
FA Sec 7A, 41C, 89, 90, the Third Schedule) *2)SFR, { Maharashtra FR18A, 114 (Schedule I to XXVI Form 6 and 7)* *AP FR 95 Schedule I to XXXI) Form 5}*	4	0,4	b) Whether the management is aware about the possible occupational diseases and taking precautions?	occupational respiratory disease (related to plant operation) is there.	respiratory disease, NIHL etc. In case of occurrence of Occupational Diseases - information to the CFO	
	2		c) In case of prevalence of occupational disease whether the person is relocated to a safe workplace (away from the source of hazard)?			
	T 10					

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
F. ACCIDENT/ INCIDENT REPORTING, INVESTIGATION AND ANALYSIS						
F.46 Accident Reporting *FA Sec 88,88A,89* *2)SFR, { Maharashtra FR 115,116 (Form 24, 24A, AP FR 96, Form 18,18A)*	10	0, 10	a) Whether there is a procedure for accident/ incident/ dangerous occurrence reporting?	Format and procedure for accident reporting Entry of accidents in the format. Match between verbal information on accidents and the record.	Whether plant is serious about reporting of all accidents	
	5	0,5	b) Whether the accident data for the last *five* years for reportable and non-reportable accidents are available?			
	T 15					
F.47 Accident Investigation *1)The Manufacture Storage and Import of Hazardous Chemicals Rules 1989/2000, Rule 5* *2)The Maharashtra Safety Officers (Duties, Qualifications and Conditions of Service) Rules 1982, Rule 8* *3) SFR,* Maharashtra FR Rule 73 J, *The A.P. Factories Rules no 61(SG) A*	5	0, 5	a) Are all the accidents investigated?	• Check whether accidents are investigated to find the root cause (management deficiency) and not the fault with the workers. • Investigation report finding are shared with workers	To prevent recurrence of accidents learning lessons from accident analysis.	
	5	0, 5	b) Whether accident investigation procedure is documented?			
	10		c) Whether root causes of accidents are analyzed?			
	5	0, 5	d) Whether accident investigation reports are submitted to top management?			
	10		e) Whether the findings of accident investigation reports communicated to workers/ injured?			
	10		f) Whether the corrective actions as per recommendations are taken to avoid recurrence of accidents?			
	T 45					

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
F.48 Analysis of Accidents *1)FA Sec 88,88A,89)* *2)SFR,* Maharashtra FR Rule 115/116, *The A.P. Factories Rules no 96,97* *3) 3786- Methods for computation of Frequency and Severity Rates for Industrial Injuries and Classification of Industrial Accidents*	10	0,10	a) Whether accident analysis is done as per IS 3786?	• Analysis of accidents • Use of accident statistics as per BIS 3786	Whether analysis of accident was used to change the SOP, better hardware /software system.	
	5		b) Are the Frequency rate, Severity rate for reportable accidents calculated?.			
	25		c) Value of FR/SR etc. *			
	10	0,10	d) Is the accident analysis helping in reducing similar accidents in last five years			
	T 50					
** In case of fatal accident /permanent disablement (as per 3786 Appendix A) in the assessment year the score of question c) will be* ***zero(0).*** *In case of No accident(either fatal or non fatal) the score will be* ***25*** *In case of loss time injury FR Maximum Marks* ***4****, SR maximum marks* ***18***						
For FR(frequency rate) of accidents ▪ *increase in FR -Score is* ***zero(0)*** ▪ *decrease in FR -Score is* ***4***				***For SR(severity rate) of accidents*** ▪ *increase in SR -Score is* ***zero(0)*** ▪ *decrease in SR by 25% -Score is* ***5*** ▪ *decrease in SR by 50%- Score is* ***10*** ▪ *decrease in SR by 75%- Score is* ***15*** ▪ *decrease in SR by >75% -Score is* ***18***		
F.49Implementation of Recommendations *1)SFR,* Maharashtra FR Rule 115/116, *The A.P. Factories Rules no 96,97*	10		a) Whether the management ensures implementation of the recommendations to avoid recurrence of accidents and incidents?	Check the methodology adopted for implementing recommendation of accident investigation at site either through modification of operating procedure or by training or by using safety system in	Upgradation of the workplace or better training to workers for reduction in probability of accident.	
	10		Whether there is a segregation of the recommendation on short term and long term action?			
	10	0,10	Whether there is a timeframe and responsibility for implementing			

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
			recommendation?	machines.		
	T 30			Check actual implementation of any recommendation.		
F.50 Reporting and Investigation of Near-miss incidents	4		a) Is there system for reporting and investigation of near-miss incidences?	Record of near miss Analysis of near miss records	Use of near miss record to upgrade working condition/ upgradation of training	
	6		b) Is there any system of classifying and analyzing the near-miss incidences?			
	T 10					

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
G. EMERGENCY PREPAREDNESS						
G. 51 Site specific details & Identification of emergencies and accident scenario and Updation of emergency plan *1) The Manufacture Storage and Import of Hazardous Chemicals Rules 1989/2000, Rule 13 &14(schedule 11,12)* 2) *The disaster management Act 2005* 3) *The Maharashtra factories Rules 1963 Rule 73M(x), 73N, 73O, 73P,73Q*	10	0,10	a. Are the site area maps (including layout, access roads and assembly points, water body reserve forest, populated areas, industries) available in control room/ emergency control centre or with RMC plant incharge?	Verify site map with access road assembly point etc. Site map of surrounding whether emergency can occur from outside agencies List of possible accident scenarios	Whether the plant knows about the possible emergencies and the layout includes the access way leading to a safe place in case of emergencies. Whether the installation is aware of outside population, water body or any other industry which can get affected from accident	
	10	0,10	b. Are the possible accident scenarios (including meteorological conditions, electrical fire etc), leading to emergency -identified and known to the operating personnel?			
	T 20					
G. 52 Medical care *1)The Manufacture Storage and Import of Hazardous Chemicals Rules 1989/2000, Rule 13 &14(schedule 11,12)*	5		a) Is there system for emergency medical care available within RMC plant? If not - what are the arrangements for emergency medical care been made with nearby hospitals?	Arrangement to carry victims in case of accident, arrangement in medical centre to provide immediate emergency care as mentioned in Factories Rules	Adequacy of the medical facilities to provide treatment in case of postulated emergency scenarios	
	T 5					

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
G.53 Periodic drills/ exercises	10	0,10	a. Are mock-exercises conducted at stipulated intervals?	Record of mock drill and listing of deficiencies in the mock drill	Verification of the preparedness	
	10		b) Are the observation of the drills noted and action taken to improve it?			
	T 20					
G.54 Emergency Control Centre	5		Is there free access from all to reach the emergency control centre?		The emergency control room location should be such that workers can safely escape from scenario and remain there for some period.	
	T 5					

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
H. SAFETY INSPECTION						
H.55 Inspection Programme			Are checklists available for inspections for the following areas: • Storage of hazardous chemicals; • Electrical hazards; • Hand & portable power tools • Machine guarding etc; • Lifting equipment; • Ladders and scaffolding; • Environmental Discharge; • Civil structure; • Emergency equipment including fire equipment; • Gas cylinder	At least three checklists and their use in last six months.	There is a regular pursuit in looking into the safety in the hazardous areas /systems	
	5	0,5				
	5	0,5				
	5	0,5				
	5	0,5				
	5	0,5				
	5	0,5				
	5	0,5				
	5	0,5				
	5	0,5				
	5	0,5				
	T 50					
H.56 Methodology & Inspection Team	10		a) Is there written procedure for safety inspection?	Record of safety inspection to verify the team, the frequency and the report generated	Safety inspection is carried out methodically and the report generated is used for improvement	
	10		b) Whether safety inspection is carried out by a designated team?			
	10		c) Whether the frequency of safety inspections is stipulated?			
	10		d) Whether an inspection report is generated and corrective actions taken?			
	T 40					

Table 3- Checklist for Scoring for RMC Safety Rating System						
Elements & Reference	**Score**		**Questions that could be asked**	**Verification**	**What to look for**	**Space to note for the Assessors**
	Maximum	**Actual**				
H. 57 Safety Audit	5		a) Are there periodic internal safety audit conducted?	Check audit report date of audit. Any document on action to be taken for recommendation.	Whether the design intent of safety system is followed	
	5		b) Are there periodic external safety audit conducted once in year?			
	5		c) Are the recommendations addressed with timeframe?			
	T 15					
H.58 Compliance of Recommendations	2		a) Are recommendations of safety inspections implemented in time?	Record of implementation of recommendation Distribution of recommendation	The report of inspection is used in upgrading the safety system	
	6		b) Whether the recommendations are submitted to in-charge operation/ in-charge maintenance?			
	6		c) Is implementation of recommendations sent to top management?			
	6		d) Is implementation of recommendations reviewed by safety committee?			
	5		e) Does top management follows-up the implementation?			
	T 25					

The applicability of the questions should be fully under the jurisdiction of the auditors after consulting the plant personnel

FA - The Factories Act, 1948
APFR- The Andhra Pradesh Factories Rules
NBC - National Building Code 2005

Table 4- Consolidated Score Sheet

Table 4A. Score Sheet for **O&HS Management System**

Sub elements	A1	A2.1	A2.2	A3	A4	A5	A6	A7	A8	A9
Max. Marks	**25**	**15**	**5**	**5**	**15**	**5**	**15**	**15**	**15**	**15**
Score										

Sub elements	A10	A11.1	A11.2	A12	A 13	A14	A15	A16	A17	**Total A**
Max. Marks	**5**	**15**	**10**	**15**	**10**	**20**	**5**	**15**	**20**	**245**
Score										

Table 4B. Score Sheet for **Physical Hazard**

Sub elements	B18	B19	B20	B21.1	21.2	B22	B23	B24	B25	**B26**	**Total B**
Max. Marks	**15**	**30**	**20**	**30**	**25**	**10**	**5**	**10**	**10**	**15**	**170**
Score											

Table 4C. Score Sheet for **Chemical Hazard**

	C27	C28	C29	C30	C31	C32	C 33	**Total C**
Max. Marks	**15**	**5**	**5**	**5**	**10**	**10**	**10**	**60**
Score								

Table 4D. Score Sheet for **Fire and Explosion Hazard**

Sub elements	D 34	D 35	D 36	D 37	D 38	D 39	D 40	**Total D**
Max. Marks	**5**	**5**	**5**	**20**	**5**	**5**	**5**	**50**
Score								

Table 4E. Score Sheet for **Industrial Hygiene and Occupational Health**

Sub elements	E41.1	E41.2	E41.3	E42	E43	E44	E45	Total E
Max. Marks	**10**	**10**	**15**	**5**	**20**	**25**	**10**	**95**
Score								

Table 4F. Score Sheet for **Accident/Incident Reporting, Investigation and Analysis**

Sub elements	F 46	F 47	F 48	F 49	F 50	**Total F**
Max. Marks	**15**	**45**	**50**	**30**	**10**	**150**
Score						

Table Table 4G. Score Sheet for **Emergency Preparedness/Onsite and Offsite**

Sub elements	G 51	G 52	G 53	G 54	**Total G**
Max. Marks	**20**	**5**	**20**	**5**	**50**
Score					

Table 4H. Score Sheet for **Safety Inspection**

Sub elements	H 55	H 56	H 57	H 58	**Total H**
Max. Marks	**50**	**40**	**15**	**25**	**130**
Score					

Table 5 Marks for all Elements and Percentage Marks

Elements	A		B		C		D	
Maximum Marks (M)	245		170		60		50	
	Score A	% in element A	Score B	% in element B	Score C	% in element C	Score D	% in element D
Actual Score(S)								

Elements	E		F		G		H		Total	
Maximum Marks (M)	95		150		50		130		950	
	Score E	% in element E	Score F	% in element F	Score G	% in element G	Score H	% in element H	Total Score (A+B+C+D+ E+F+G+H)	% (Total Score against Total Maximum Marks)
Actual Score (S)										

* % marks in each element is S/M

ANNEXURE-I
TYPES OF RECORDS TO BE EXAMINED DURING THE RMC SAFETY RATING SYSTEM

1. OH&S policy
2. Safety organization chart
3. Training records on safety fire and first-aid
4. Record of plant safety inspections
5. Safety Budget Provision and utilization
6. Accident investigation reports
7. Accidents, dangerous occurrences and near miss incidents - statistics and analysis
8. Record of tests and examinations of equipment and structures as per statutes
9. Safe operating procedures for various operations
10. Record of work permits
11. Record of work environment monitoring (flammable, toxic and explosive substances)
12. 11 Maintenance and testing records of fire detection and fire fighting equipment
13. Medical records of employees
14. Records of industrial hygiene surveys (noise, ventilation, illumination, dust etc.)
15. Material safety data sheets
16. On-site emergency plans and record of Mock Drills
17. Records of solid waste disposal
18. Records of gaseous emissions and effluent discharges to the environment
19. Housekeeping inspection records
20. Minutes of safety committee meetings
21. Statutory licences and approvals
22. Records of any modifications carried out in plant or process
23. Maintenance procedure and records
24. Instrumentation and equipment calibration and testing records
25. Planned shutdown maintenance procedures
26. In service inspection manuals, records including that of material handling
27. OH&S budget
28. Inspection books and other statutory records
29. Records of previous audits and safety analysis
30. Procedures for safe transportation of hazardous substances