Society for Reliability and Safety (est. Dec.2010)

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# SRESA Newsletter

Oct- Dec 2024. Issue-4/2024

A quarterly publication of Society for Reliability and Safety [Reg. No. 3141/2010/G.B.B.S.D.], Mumbai



6th National Conference on Reliability Safety proposed to be held in Amity University Noida, UP, during 6-8, Feb. 2025;

### Editors

Prabhakar V. Varde Amit Shrivastava

## SRESA Mission & Programmes

The ICRESH events and SRESA's international Journal of Life
Cycle Reliability and Safety
Engineering (LRSE) published by
Springer, have become flag
bearers of SRESA. These two
products of SRESA have
established itself as the leading
brands at national and
international level. I am really
excited to share that LRSE
having obtained Scopus indexing
a year back, is now being
considered for Impact Factor
and the initial insights are very
encouraging. This 13th year of
LRSE publication.

### President's Desk .....

First of all Happy New Year - 2025 ..it's also time to look back and have an overview of SRESA activities in 2024..celebrate the successes and take lessons from failure or unsatisfactory outcomes... This is second part, I feel is more important and a catalyst for growth. In fact, celebration and learning from lessons has, arguably, become culture of SRESA. And this truly shows in SRESA's growth story.

The mega event ICRESH-2024 held during 20 -23 Feb. 2024 in DAE convention centre, in Anushaktinagar, Mumbai, was a grand success, given the grand inaugural program on 21st Feb. 2024, where the 'Life time achievement award ceremony' where these grand awards and prestigious awards were given to the five renowned dignitaries' from India and abroad, captured everyone's attention. Two international publications based non the keynote talks and invited and contributed talks are considered essence of the conference specially the outreach of these publications. The process of election of new SRESA managing committee after a period of designated five years is an important event. Our teams continuously worked on publication of 'PRA Standard for Nuclear Power Plant', as Bureau of Indian Standard, Some more work and we will see this standard published in 2025. In terms of operations and administrative or say even legal works there have been significant learning in respect of operationalization of SRESA with Government bodies, like Cherity Commissioner of India. In early 2025 period all the past backlogs will be cleared, that mainly include conduction of AGM mainly to present the Audit Report 2024, submission of Change Report, work for changes by laws, etc.

I take this opportunity to invite you to the SRESA's 6th National Conference on Reliability Safety (NCRS-6) being organized during 20 - 21 Feb. 2025, and being held at Amity University Camous. Noida.



### In this issue ....

President's Desk

An article on "Root Cause indings of Source Frame nterference - A challengin perennial safety issue in SOMED facility of BRIT"

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" Root Cause findings for Source Frame interference - A challenging perennial safety issue in ISOMED facility of BRIT"

Presented on behalf of Task Force by " Amit Shrivastava, Deputy General Manager-ISOMED-BRIT "

### 1. Introduction

ISOMED is the country's first gamma radiation processing facility set up under UNDP project in the year 1974 for the commercial radiation processing services for the Terminal Sterilisation of Healthcare Products. Since its inception, it has been providing impeccable quality radiation sterilisation services to over hundreds of manufacturers of the healthcare products from all across the globe. It has been recognised as the centre of excellence in Gamma radiation sterilisation in the Asia Pacific region and won accolades from several pharma majors in the country for its leading role in supply chain of their healthcare products. The facility had processed 0.32 million cubic metres approx. of health care products fetching a cumulative revenue of Rs 91 crores approximately in the period from January 1974 till September 2018. [Figure 1.]

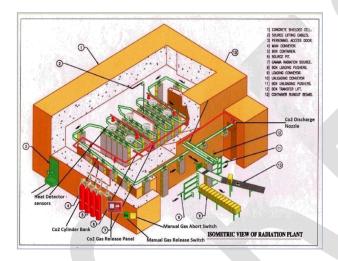


Figure 1: Isometric View of ISOMED Facility

During the marathon 44 years' service to the nation, the major impact of the terminal sterilisation services has been realised in form of terminally sterilised Intra Uterus Devices (IUDs) to meet population activity related objectives under societal mission of the Government of India together with the United Nations and the Oral Polio Vaccine Droppers for the ambitious Pulse Polio Mission of the Government of India. Similarly, Orthopaedic implants for the crucial implant surgical procedures have been processed to render much improved post-surgery quality of life for the patients. Cellulosic surgical dressings along with Single Use Disposable Medical Devices have been terminally sterilised for the use by the Central Sterile Services department of the hospital establishments to alleviate risks due to hospital acquired infections thus reducing morbidity and mortality rates.

Under the regulatory framework of the licensing authority i.e. AERB, the facility had been periodically audited over all these years with periodic extensions of the license for operation of the facility. It is worthwhile to mention that all these years the plant system availability has been over 98% that was further ratified by Reliability centred Safety Reassessment Studies conducted in the year 2007 and 2017 by the competent experts from Reactor group, BARC.

Safety Reassessment Study conducted by the competent authorised agencies in BARC in May 2017 (this study was initiated as per the recommendations of the AERB) have concluded that all the System, Structure and Components of the facility are in healthy condition and that the facility can function for a continued period subject to the condition that the perennially existing potential deterrent in form of Source Frame Interference into Underground Storage Pit is resolved by the facility management.

It is worthwhile to mention that ISOMED facility being a Category II type Land Based Stationary Gamma Irradiator, the Coablt-6D source housing frame while not in use, gets lowered into an underground concrete storage pit with the steel shield plug at its top.[Figure 2.]

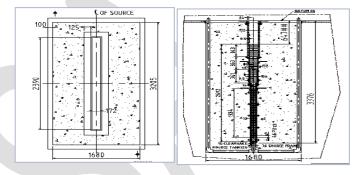


Figure 2: Top view and Sectional view of the Source Pit and Source Frame assembly

In the year 1974 the top of the shield plug used to rest adequately at its design intended position below the Finish Top Level of the underground pit (built-in design safety feature). [Figure 3.] But over the years this seating position has been gradually shifting upwards (apparently due to interference within the underground pit). [Figure 4.]



Figure 3: Source Frame inside the underground storage pit (2001)



Figure 4: Source Frame Interference (2018)

Based on above mentioned remarks in the safety reassessment study by BARC, the license for the round the clock commercial operation of the facility has been revoked by AERB in October 1, 2018 with a recommendation for the assessment of the root cause of the perennial issue of Source Frame Interference and confirmation of the proposed modified design in future to prevent recurrences.

As System, Structure, Components of the facility were in healthy condition except afore mentioned issue and since there existed a precipitating demand for restoration of commercial operations of the facility by the stakeholders from the healthcare industry, BRIT undertook the task of complete resolution of the perennial issue of source interference and resumption of the commercial operations of the facility with modified design in the earliest feasible time.

Accordingly BRIT constituted a competent task force that has thoroughly performed an elaborate root cause analysis of the perennial issue of source frame interference and accordingly facilitated vital design inputs for the design modifications recommending that with these medications incorporated in the design, the facility could be safely operated (without recurrence of the issue of Source Frame Interference) for a period of 30 years subject to a detailed examination of the Source Frame / Source Storage Pit after 15 years period.

In this article, major highlights of the root cause analysis and its outcome are presented.

To facilitate thorough examination of the entire source frame/Inner Liner and the embedded ventilation ducts with cooing coils for decay heat removal system, the team ISOMED/BRIT, first successfully off loaded all 72 nos of Cobalt-60 sources from the source frame and safely transported to HIRUP, BARC for storage. The empty source frame with the top shield plug was thoroughly examined by the task force. [Figure 5.] Later the PCC around the Source storage pit admeasuring 3200 mm length x 1680 mm width x 3600 mm depth was excavated using the portable percussion hammers. [Figure 6.] It was noticed during the excavation that the health of the PCC was stout thus offering substantial resistance to percussion hammering using portable hammer. The observation was further substantiated by the PCC sample analysis from a competent Concrete Testing Laboratory.



Figure 5: Actual condition of Source Frame after removing all the active Co-60 sources from frame.



Figure 6: Source Pit excavation work in progress.

Upon complete excavation of the PCC around the underground source storage pit, the pit along with the inner metallic tank was thoroughly examined. The evidence of heavy corrosion on the Source Frame [Figure 7] / Inner Tank Liner [Figure 8] was found by the task force, accordingly the expertise of the Materia Is Processing & Corrosion Engineering Division, Material Group, BARC was sought to investigate the root cause of the corrosion of the Source Frame / Inner Tank Liner.



Figure 7: Actual condition of Source storage tank after removing source frame.



Figure 8: Actual condition of Source Frame.

The outcome of the root cause investigation presented in the following paragraphs elaborates the potential causes for the perennial issue of the Source frame interference and provides the design inputs for the proposed modified design in form of recommendations for averting recurrence of the interference issue in the future

 Perrenial Cause for the source interference - Inadequate location of the cooling coils of the Decay Heat Removal System

**Objective evidence forming basis of the cause -** The lowermost section of the inner tank lining found bulged inwards

Corroborating evidence - The detailed thermal and thermomechanical analysis performed for the source storage pit indicating maximum temperature build up at central location in lowermost section of the liner

Recommendations to be adopted in the modified design to avert recurrence of potential cause causing source frame interference in future – The cooling coils to be installed very close to the inner tank liner preferably on the outer surface itself to restrict high temperature build up at central location in lowermost section of the liner and to

ensure effective cooling for the PCC matrix (limiting temperatures to 62 degrees Celsius)

Remarks:

Following the recommendation, the modified design has made the provision for the installation of the cooling coils right on the outer surface of the inner liner.

Potential Cause for the source interference - Synergistic effects of water/ humidity /enhanced temperatures under the Gamma Radiation Field causing Heavy Corrosion of Source Shield Plug / Inner Tank Liner Objective evidence forming basis of the cause - Voluminous corrosion products observed on Shield Plug and the Inner Tank Liner Corroborating evidence - The Facility was commissioned in the year 1974. As reported by the facility the issue of Source Frame Interference was first observed in the year 1989. In the year 1997, entire frame was emptied out and grinding was resorted to for removing the corrosion products on the shield plates of the plug. The source frame was observed to be lowering to its intended design position for about a year. The issue resurfaced later. In the year 2008, water was observed in the ventilation duct openings on the floor level inside the irradiation cell. The cooling coil was reported to be leaking. Later in the year 2015 and beyond, due to the issue aggravating further tap water jet was sprayed on the exposed shield plates, causing submergence of the lower sections of the inner tank into water.

Recommendations to be adopted in the modified design to avert recurrence of potential cause causing source frame interference in future –

- 1. To avert potential leakage of water through the cooling coils they should necessarily be made of Galvanised Iron with thicker walls (schedule 8D). The option of choosing Stainless Steel as Material of Construction for the cooling coils is discouraged due to the fact that differential linear thermal expansion coefficients of Stainless Steel and the PCC, may cause development of stresses along with air gap at Cooling coil/PCC interface thus affecting the integrity of PCC matrix in terms of Radiation Shielding supplemented by potentially reduced effectiveness in PCC matrix cooling.
- To avert corrosion related degradation slightly alkaline water (pH8.5-9.2) to be used as the working fluid.

Remarks:

Following the recommendation, the modified design has kept the material of construction for the cooling coil as Galvanised Iron with provision for maintaining alkalinity of water.

3. The top shielding plug material which is carbon steel in the existing design needs to be changed to SS316 L to avert chances of voluminous corrosion products build up thus causing interference.

### Remarks:

Following the recommendation, the modified design has kept the material of construction as SS316 L for the top shielding plug.

4. The inner liner material which is carbon steel in the existing design needs to be changed to Galvanised Steel or low alloy steel ASTM A387 Grade 2 (0.5 % Cr, 0.5 % Mo) or equivalent grade of materials with similar chemical composition. This is expected to avert chances of voluminous corrosion products build up thus causing interference.

### Remarks:

Following the recommendation, the modified design has kept the material of construction as Galvanised Steel for the inner tank liner with bolted design to avoid site

### welding.

5. The existing scheme of ventilation duct with one end opening into the inner tank, the other at roof top in to the atmosphere to be dispensed with as the experts have indicated that this might have facilitated easy entry of rain water droplets from the open atmosphere directly into the pit over the years.

### Remarks:

Following the recommendation, the modified design has averted the placement of the ventilation duct inside the underground PCC pit, else a new in cell ventilation scheme has been proposed, duly vetted by Reactor Engineering Design, Division of BARC.

Also, to cater to the venting requirement for ozone build-up inside the inner storage tank, the modified design has made provision for two nos. of Galvanised Pipes of 25 NB size with one end at the bottom of the inner tank and other opening at the Finish Floor level at the too of the PCC oit.

6. Upon detailed scrutiny of the inner storage pit, no evidence could be found for the sea water engrossing into the inner source storage pit, however the samples from the PCC matrix all around the Source storage pit were analysed for presence of Chloride and Sulphur content. The chloride concentration in the PCC samples were found to be slightly in excess with the permissible values. Upon excavation it was noticed (at 2.5 mtr depth on the RCC wall which is towards sea side) that it had a seepage mark (approximately 500 mm x 500 mm). This seepage was reappearing within ½ hour after drying it with the air blower. Therefore, as an abundant precaution the modified design should incorporate adequate water proofing measures at the RCC/PCC interfaces in the underground source storage pit.

Remarks:

Following the recommendations, 4 mm thick Carbon Steel panels have been introduced between the underground RCC walls (side and bottom) of the source storage pit and the Inner source storage Tank to avert possibility of underground water seepage from RCC walls into the tank.

7. Four core test on PCC is carried out and equivalent cube compressive strength is in range of 24MPa to 30Mpa (M24 to M30) which is slightly more than the grade of concrete used for RCC cell wall and raft i.e M20.It is recommended that the PCC for the source storage pit should be of minimum M24 grade.

### Remarks:

Following the recommendations, M25 grade of concrete for PCC for the source storage pit has been provided in the modified design.

### The current status of the Design modification:

Based upon the recommendations of the task force and under regulatory approval the design modification has been taken up by BRIT in the year 2022. As of now the integrated cold commissioning trials for the modified ISOMED facility has been completed and Regulatory approval for the commencement of Hot Commissioning trails are awaited. It is planned to commence the commercial operations of the modified facility in early 2025.

### Acknowledgements:

The article has been presented on behalf of the entire task force for the root cause analysis for source frame interference. The task force is indebted to the visionary guidance and mentorship of Shri Pradip Mukherjee, Chief Executive, BRIT for entrusting the responsibility for the time bound challenging task. Also treasure of his technical expertise has been of immense support to the task force. BRIT sincerely acknowledges and extends sincere gratitude towards the invaluable expertise of the Chairman Task Force - Shri Ramakant Sahu - General Manager, BRIT and the senior experts from NSAD-AERB, and RSD, RED, CED, RPD - BARC, MED-BRIT whose painstaking timely efforts have contributed significantly for the much need task. Sincere thanks are due to the Head of Divisions/Groups in BARC/AERB who have supported the cause by nominating the suitable experts. In fact the need for the root cause investigation has been precipitated primarily due to the invaluable inputs from the Reliability centred Safety Reassessment Studies (2007 and 2017) carried out in the leadership of Dr.P.V.Varde - then Senior Reliability expert from Reactor Group, BARC and the current President of SRESA. The study had contributed in the Remaining life assessment of ISOMED facility - A First of its kind study in the history of Land Based Stationary Gamma Irradiators that was widely acclaimed and published in the International Journal viz. "Nuclear Engineering Design". Our sincere thanks are also due to Team ISOMED (those serving presently as well as who retired on superannuation especially Dr. A.K. Kohli- Ex. Chief

Executive, BRIT) who have railroaded all their indomitable committed efforts for the timely completion of the Root Cause Investigation and realising earliest resumption of commercial operations of the facility in the coming months.

The challenging task of root cause investigation is a shining example of the synergistic team work and treasure of coherence between BRIT, BARC and AERB from the DAE family.



## MSV& Associates

### CHARTERED ACCOUNTANTS



F-33, Sej Plaza, Near Nutan School, Marve Road, Malad (West), Mumbai - 400 064. Tel.: +91-22 -28086253 / 8655779010 | Email: msvca2010@gmail.com

### INDEPENDENT AUDITOR'S REPORT

To,
The Board of Trustees
Society for Reliability and Safety,
64 Vibha, R Paramhans Marg,
Opp. Cradinal Gracious High School,
Bandra East,
Mumbai – 400051.

## Report on the Financial Statements Opinion:

We have audited the financial statements of **Society for Reliability and Safety**, the Trust, which comprise the Balance Sheet as at March 31, 2024, and the Income & Expenditure Account for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements gives the relevant information and give a true and fair view in conformity with the accounting principles generally accepted in India:

a) In the case of the Balance Sheet, of the state of affairs of the Trust as at March 31, 2024; and

In the case of the Statement of Income and Expenditure Account of the 'Deficit' of the trust for the year ended on that date;

### **Basis of Opinion:**

We conducted our audit in accordance with the Standards on Auditing (SA's) issued by the Institute of Chartered Accountants of India. Our responsibilities under those Standards are further described in the auditor's responsibilities for the audit of the Financial Statements section of our report. We are independent of the trust in accordance with the code of ethics issued by the Institute of Chartered Accountants of India together with ethical requirements that are relevant to our audit of the financial statements under the provisions of the act and the rules thereunder, and we have fulfil our other ethical responsibilities in accordance with these requirements and the ICAI's code of ethics. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on the Financial Statements.

### Management Responsibility or the Financial Statements:

The Board of Trustees are responsible for the matters with respect to the preparation of these financial statements that give a true and fair view of the financial position, and financial performance of the Trust in accordance with the accounting principles generally accepted in India, including the Accounting Standards prescribed by ICAI. This responsibility also includes the maintenance of adequate accounting records in accordance with the provision of the Act for safeguarding of the assets of the Trust and for preventing and detecting the frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial control, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

**Auditors Responsibility:** 

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with the Standards on Auditing as applicable to the Trust. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal financial control relevant to the Trust's preparation of the financial statements that give true and fair view in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by Managing Committee, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion on the financial statements

### Report on other Legal and Regulatory Requirements:

Further to our comments as mentioned above, we report as follows:

- a) We have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit.
- b) In our opinion proper books of account as required by law have been kept by the Trust so far as it appears from our examination of those books.
- c) The Balance Sheet and the Statement of Income and Expenditure Account dealt with by this Report are in agreement with the books of account.

For M S V & Associates

Chartered Accountants (Firm's Registration No. 130455W)

CA. Santosh Mane Partner

M. No 125370

UDIN: 24125370BKCBZF7830

Place: Mumbai

Date: 10th November 2024

Report of an auditor relating to accounts audited Under sub-section (2) of section 33 & 34 and rule 19 of the Bombay Public Trust Act.

Registration No.: - F-43051 (Mumbai)
Name of the Public Trust: - SOCIETY FOR RELIABILITY AND SAFETY

For the year ending:- 31st March, 2024

(a)	Whether accounts are maintained regularly and in accordance with the provision of the Act and the rules;	Yes
(b)	Whether receipt and disbursement are properly and correctly shown in the accounts;	Yes
(c)	Whether the cash balance and vouchers in the custody of the manager or records required by date of audit were in agreement with the accounts;	Yes
(d)	Whether all books, deeds, accounts, vouchers or other documents or records required by the auditor were produced before him;	Yes
(e)	Whether a register of movable and immovable properties is properly maintained, the changes therein are communicated from time to time to the regional office, and the defects and inaccuracies mentioned in the previous audit report have been duly compiled with;	N.A.
(f)	Whether the manager or trustee or any other person required by the auditor or appear before him did so and furnished the necessary information required by him;	Yes
(g)	Whether any property or funds of the Trust were applied for any object or purpose other than the object or purpose of the Trust;	N.A.
(h)	The amount of outstanding for more than one year and the amount written off, if any	Nil
(i)	Whether tenders were invited for repairs or construction involving expenditure exceeding Rs. 5000/-;	N.A.
(j)	Whether any money of the public trust has been invested contrary to the provisions of Section 35;	No
(k)	Alienations, if any, of the immovable property contrary to the provisions of Section 36 which have come to the notice of the auditor;	No
(1)	All cases of irregular, illegal or improper expenditure, or failure or omission to recover monies or other property belonging to the public trust or of loss or waste of money or other property thereof, and whether such expenditure, failure, omission, loss or waste was caused in consequence of breach of trust or misapplication or any other misconduct on the part of trustees or any other person while in the	No
(m)	management of the trust; Whether the budget has been filed in the from provided by rule 16A;	No
(n)	Whether the maximum and minimum number of the trustees is maintained;	Yes
(0)	Whether the meetings are held regularly as provided in such instrument;	No No
(p)	Whether the minutes books of the proceedings of the meetings is maintained; Whether any of the trustees has any interest in the investment of the trust;	No
(q)	Whether any of the trustees has any interest in the investment of the trust,  Whether any of the trustees is a debtor or creditor of the trust;	No
(r) (s)	Whether the irregularities pointed out by the auditors in the accounts of the	Yes
(3)	previous year have been duly compiled with by the trustees during the period of audit;	700
(t)	Any special matter which the auditor may think fit or necessary to bring to the notice of the Deputy or Assistant Charity Commissioner.	Trust has to submit report online & change
		Change

get done For M S V & Associates **Chartered Accountants** 

CA. Santosh Mane Partner

M. No. 125370 FRN-130455W

UDIN: 24125370BKCBZF7830

Place: Mumbai

Date: 10th November 2024

report is to

Statement of income liable to contribution for the year ending 31st March, 2024 Name of the Public Trust SOCIETY FOR RELIABILITY AND SAFETY

Registration No. F-43051 (Mumbai)

			Rs.	Rs.
1	Income as (Schedule	shown in the Income and Expenditure Account IX)		17,59,246/
II		Items not chargeable to Contribution under		
		Section 58 and Rules 32 :		
	i)	Donations received from other Public Trust and	-	
	,	Dharmadas		
	ii)	Grants received from Government and Local	_	
	,	authorities		
	iii)	Interest on Sinking or Depreciation Fund	_	
	iv)	Amount spent for the purpose of secular education	_	
	v)	Amount spent for the purpose of medical relief	_	
	vi)	Amount spent for the purpose of veterinary	_	
	*"/	treatment of animals		
	vii)	Expenditure incurred from donations for relief of	_	
	•,	distress caused by scarcity, drought, flood, fire or		
		other natural calamity		
	viii)	Deductions out of income from lands used for		
	v,	agricultural purposes :-	7	
		a) Land Revenue and Local Funds Cess	_	
		b) Rent payable to superior landlord	_	
		c) Cost of production, if lands are cultivated by trust		
	ix)	Deductions out of income from lands used for non-		
	1//	agricultural purposes :-		
		(a) Assessment, cesses and other Government or	_	
		Municipal Taxes		
		(b) Ground rent payable to the superior landlord	_	
		(c) Insurance premia		
		(d) Repairs at 10 per cent of gross rent of building		
		(e) Cost of collection at 4 per cent of gross rent of	_	
		buildings let out		
	x)	Cost of collection of income or receipts for		
	^)	securities, stocks, etc. at 1 per cent of such income		
	xi)	Deductions on account of repairs in respect of		
	^1)	buildings not rented and yielding no income, at 10		
		per cent of the estimated gross annual rent		
	xii)	Deduction on account of Miscellaneous Expenses	-	
	,			
		Gross Annual Income chargeable to contributions		17,59,246

Trust Address: Society for Reliable and Safety

C/o Shri S J Raut 64 Vibha R Paramhans Marg, Opp Cardinal Gracious High School, Bandra (East), Mumbai - 400051.

Place :- Mumbai

Date:- 10th November 2024

For SOCIETY FOR RELIABILITY AND

SAFETY

Treasurer

President

Am Secretary

**Chartered Accountants** 

For M S V & Associates

CA. Santosh Mane Partner

M. No. 125370 FRN-130455W

UDIN: 24125370BKCBZF7830



The Bombay Public Trust Act, 1950		SCHEDULE - VIII [Vide Rule 17(	17(1)] *	Rean No :- F-43051 (Mumbai)	lumbai)
Name of the Public Trust :-	SOCIETY FOR RELIABILITY AND SAFETY	BILITY AND SAFET	<u> </u>		
FUNDS & LIABILITIES	AMOUNT (₹)	AMOUNT (₹)	ASSETS	AMOUNT (₹)	AMOUNT (₹)
Trust Fund Balance as per last Balance sheet Adjustment during the year (give details) Add: Life Membership Fees	1 1		Immovable Properties (At Cost ) Balance as per Last Balance Sheet Addition During the Year Less: Sales during the year Depreciation up to date	1 1 1	
Other Earmarked funds :- Balance as per last Balance sheet Depreciation Fund Sinking Fund Reserve Fund Any other Fund (Panipuravtha)			Eixed Assets Balance as per Last Balance Sheet Addition During the Year Less: Sales during the year Depreciation up to date	1 1 1 1	,
Loans (Secured or Unsecured):-			Investments  FD with State Bank of India Add: Accrued Interest on Fd	11,00,000.00	12,30,730.00
From Others			Loans ( Secured Or unsecured ): Good / doubtful Other loans Tax Deducted at Source	28,165.00	28,165.00
For Expenses - Income Tax Payable - Audit Fees Payable - Accounts Writing Charges Payable	37,763.00 32,450.00 9,000.00		Advances Deposit - Office Premises		25,000.00
- Traveling Expenses Payable - Lodging & Boarding Payable - Professional Fees Payable Unidentified Receipt	8,002.36 10,000.00 17,700.00	1,14,915.36	Sundry Debtors		
Sundry Creditors Annexure - A		2,63,019.00	,		
Balance C/fd		3,80,049.36	Balance C/fd		12,83,895.00
Dr. P. Pre For Reliak	Wille Safety (2. Society PM Reliability & Society (2. Society PM Reliability &	Allishing & Safety (MISCA)	Society for Reliability & Solety (SRESH)	S M * CORP.	NSSOCIATION OF FRINGE OF A A CCOMPANIES OF A A CCCOMPANIES OF A CCCOMPANIES OF A A CCCOMPANIES OF A A CCCOMPANIES OF A CCCCOMPANIES OF A CCCCCOMPANIES OF A CCCCCOMPANIES OF A CCCCCOMPANIES OF A CCCCCOMPANIES OF



Income and Expenditure Account:  Balance as per last Balance Sheet Balance as per last Balance Sheet Balance as per last Balance Sheet Add : Appropriation, if any Less : Deficit as per Income and Expenditure Account  Total  As per our report of even date  The above Balancesheet to the best of our knowledge and belief contains  The above Balancesheet to the best of our knowledge and belief contains  Total  For SOCIETY FOR RELIABILITY AND SAFETY  For society and pelief contains	4,74,645.41 39,636.83 67,000.00	
and 38,460.77 14,85,127.88 e)  18,65,177.24 e)  best of our knowledge and belief contains	- 00.000,79	
abest of our knowledge and belief contains	00:000	5 81 282 24
18,65,177.24  Be best of our knowledge and belief contains		
e best of our knowledge and belief contains	18,6	18,65,177.24
Balancesheet to the best of our knowledge and belief contains	LITY AND SAFETY For M S V & Associates Charlered Accountants	S. ASSO
a true accounts of the Funds & Liablities and of the property Assets of the Trust	Surse CA. Santosh Mane	MUMBAI FRN 130455W *\$
Place:- Mumbai  Date:- 10th November 2024  Date:- 10th November 2024  President  President  President	Treasurer  Treasurer  M. No. 125370  FRN: 130456W  AUDITOR	8d Account

The Bombay Public Trust Act, 1950		SCHEDULE - IX			
		[Vide Rule 17(1)]	7(1)]	Rean No :- F-43051 (Mumbai)	(Mumbai)
Name of the Public Trust :-	SOCIETY FOR RE	SOCIETY FOR RELIABILITY AND SAFETY	\FETY		
Income & Expenditure A/c. F.Y.Ended :-	31st March, 2024				
EXPENDITURE	AMOUNT (₹)	AMOUNT (₹)	INCOME	AMOUNT (₹)	AMOUNT (₹)
To Expenditure in respect of Properties Rates, Taxes, Cesses Repairs & Maintenance Electricity Charges & License Fees	25,170.00		By Rent - Accrued - Realised	1 1	F .
Insurance Depreciation (by way of provision of adjustment)		25,170.00	By Interest On Securities		
To Establishment Expenses As Per Annexure -B Conference Expenses	2,35,851.24	17,60,736.77	On Loans On Fixed Deposit By Donations in Cash or Kind	64,637.00	64,637.00
To Remuneration to Trustees  To Audit Fees		11,800.00	By Grants		
To Remuneration ( in case of a math) to the - head of the math, including his houshold - expenditure, if any  To Amount Written Off: a) Bad Debts			By Income From Other sources - Membership Fees - Royalty for Journal Subscriptions - Sponserships (ICRESH) - Conference Receipts		79,200.00 2,07,909.00 9,45,000.00 4,62,500.00
b) Loans Scholarship c) Irrecoverable Rents d) Other Items					
To Miscellaneous Expenses					
To Depreciation					
Balance C/fd		17,97,706.77	Balance C/fd		17,59,246.00

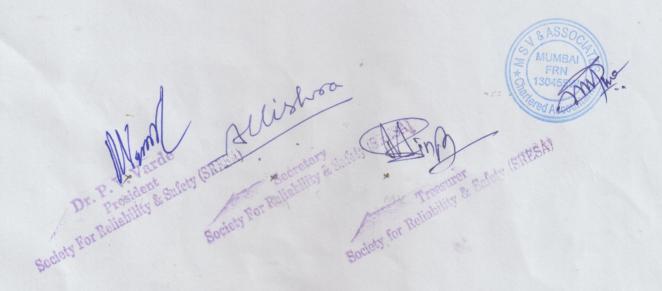


A Character of the second of t

Balance B/d		17,97,706.77   Balance B/d	lance B/d	17,59,246.00
To Amount Transfer to Reserve or				
Specific Funds				•
To Expenditure on objectivs of the trust  a) Reigious  b) Educational		By	By Deficit carried over to Balance Sheet	38,460.77
c) Medical Relief d) Relief of Poverty e) Other Charitable Objects		•		
Total		7,907,706.77	Total	17,97,706.77
As per our report of even date	For	SOCIETY FOR RE	For SOCIETY FOR RELIABILITY AND SAFETY	For M S V & Associates Chartered Accountants
		Jun Jun		SAN WOUNDER WINNERS WI
	Dr. P. P.		Secretary Treasurer Treasurer	
Place :- Mumbai Date :- 10th November 2024	Society For Reliability & Saloty (	& Safety (	The transfer of the transfer o	AUDIN: 24125370BKCBZF7830
	70	000		

SOCIET	TY FOR RELIABILITY AND SAFETY	
Annexu		
	Creditors	
Sr No	Particulars	Amt (₹)
1	BARC Training School Hostel Mess	14,807.00
2	Blugent Hospitality Pvt Ltd	1,48,212.00
3	Devidas Decorators	1,00,000.00
	Total	2,63,019.00
Annexu	re - B	
Establis	shment Expenses	
Sr No	Particulars	Amt (₹)
1	Website Expenses	47,907.00
2	Bank Charges	1,247.24
	Professional Fees	5,900.00
4	Accounts Writing Expenses	3,000.00
5	Meeting Expenses	4,354.00
6	Office Rent	29,500.00
7	Refund to DAE	1,13,933.00
8	Printing & Stationary	30,010.00

Total



2,35,851.24

### SOCIETY FOR RELIABILITY AND SAFETY

ICRESH-2024

Sr No	Particulars	Amt (₹)
1	Charges & Sponsorship	
	- Registration Charges	4,62,500.00
	- Sponsorships	9,45,000.00
	Total (A)	14,07,500.00
2	Expenditures	
	- Bank Charges	600.53
	- Awards & Mementos	26,823.00
	- Computer & Printer Hire Charges	1,83,608.00
	- Conference Kit Expenses	1,52,609.00
	- Cultural Misc Expenses	20,000.00
	- Decorators Expenses	2,26,584.00
	- Food Lodging & Boarding	4,04,785.00
	- Honourarium	5,000.00
	- Postage & Courier	4,740.00
	- Photography & Videoshooting	44,250.00
	- Printing Stationery & Others	3,31,734.00
*	- Travel Expenses	1,24,152.00
	Total (B)	15,24,885.53

Net Deficit C = A - B

(1,17,385.53)

For ICRESH-2024

For M S V & Associates

**Chartered Accountants** 

CA. Santosh Mane

Partner M. No 125370

Dr. P. V. Varde Conference Secretary, iCRESH-2024 Treasurer
President International Conference On Reliability & Safety Safety And Hazard-2024 Treasurer, ICRESH-2024 International Conference On Reliability, Safety And Hazard-2024

Place :- Mumbai

Date: - 10th November 2024

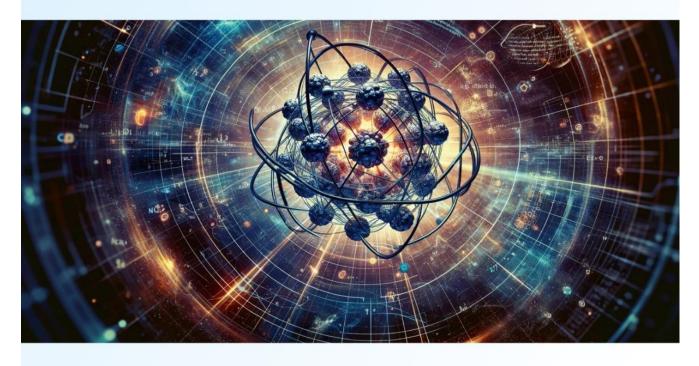






## RELIABILITY AND SAFETY (NCRS-2025)

6<sup>th</sup>-8<sup>th</sup> February, 2025 Amity University Uttar Pradesh



### NOTE:

Abstract Submission Deadline: September 13th, 2024.

Submissions to be mail: ainst@amity.edu

Upload Abstract here Selected Papers after peer review will be published as book chapters by Springer Nature

https://forms.gle/RPZcMLSj3v8sLKYc6

Papers are invited from research and development/academic institutions on the following areas with applications in defense, Industrial and Healthcare sector

Reliability and Maintainability Engineering

**Human Factor Modelling** 

Life Cycle Management

**Prognostics** 

**Risk Communication** 

Risk Management And Decision-Making

Probabilistic Safety Assessment

**Nuclear Safety and Security** 

Severe Accident Management

Reliability Estimation/Prediction Probabilistic Modelling

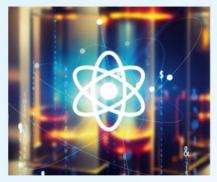
Physics of Failure

Reliability Centered Maintenance

Risk Assessment

Safety Analysis

Emerging Techniques (AI/ML) their Applications in Safety and Security







### **GUIDELINES FOR AUTHORS:**

- The title must be times new roman bold font 14. Centre aligned text.
- Abstract should be written in times new roman font 12. Restrict the content to one page, justified content with Normal margins to be used
- Summarize the work and key findings in 250-300 words. Abbreviations must be avoided.
- Figures must not be included.
- The author names along with affiliations for all authors and mail ID of the corresponding author in Times New Roman (italics) font 10.
- · References may be excluded.
- The prepared document to be exported to pdf with nomenclature: author name sncrs2025.

### Contact:

Prof. (Dr.) S K Khatri, Conference Chair NCRS 2025 Dy. Director General, AFSTIA Amity University Uttar Pradesh Prof. (Dr.) Alpana Goel, Conference Chair NCRS 2025, Director and Head AINST, AUUP B Block, Room G 04, Sector 125 Noida, Gautam Buddha Nagar, UP 201313 Off: 01204392117 | Mail: agoel1@amity.edu | ainst@amity.edu

## Invitation for Submitting Article in SRESA Newsletter

Articles are invited from Academics, Researchers, Engineers, and Industry practitioners, and Young Scientists on their work for wider publicity for publishing in SRESA Newsletter. SRESA Newsletter is a platform for sharing, and learning. We all know that publishing an article requires lots of effort and time. In SRESA Newsletter you can request review on the core theme of the article, with little efforts. If you were awarded a Ph.D. Degree, then SRESA Newsletter is the right platform for wider publicity of your work.

All the SRESA Life Member must not that the SRESA and Amity University are Jointly hosting the 6<sup>th</sup> NCRS-2025 during Feb. 6 – 8, 2025 - the National Conference on Reliability & Safety. NCRS is SRESA's national level event to bring all the academia, experts, scholars and industry specialists in the area of Safety and Reliability together. The objective is to share, present and discuss their research and experience in R&D and applied areas.

SRESA and Amity University organizers request you all to submit the abstract before the deadline such that your paper can become part of the proceedings of the 6<sup>th</sup> NCRS-2025.

### Notice

All the SRESA Members must note that the SRESA Membership form is under revision and therefore the same does not form part of this issue. So, membership drive will be re-initiated only after the changes are affected in the Byelaws of SRESA.