

ISA Working Group 2020 Webinar Series

(Webinar will commence at 11:05 am)

Assurance in a Connected World

Webinar 2 – ISA WG position statement on Independent Environment Assurance (IEA) and its relation to Independent Safety Assurance (ISA) activities

Panellists

Steve Beech – Speaker and Author of the ISA WG Position Paper

Adrian Payne – Speaker, ISEA Experience

Cynthia Chia – Speaker, The View of the IEA

Stephen Hatton – ISA WG Chair

Pete Hutchison – ISA WG Deputy Chair

John Canning – ISA WG Secretary

ISA WG Terms of Reference – Purpose

- Promote the ISA role as a means of providing independent safety assurance of products to the supplier, purchaser and user
- Promote the ISA role of a safety professional in standards
- Support professional development by defining minimum standards, identifying training that meets minimum standards and supporting resources
- Support professional ISAs by developing guidance and providing information that affects their role

Housekeeping

- Q&A (Zoom Webinar)
 - Use Q&A button to type your question (don't use chat button; don't raise hand)
 - Use 'thumbs up' to vote up or vote down a question (once only)
 - Panellists will select and pose questions
 - Questions not answered today will be recorded and answers provided afterwards
- Feedback
 - Please read and complete the survey (on the IET registration page)
 - Short re-cap article after the event
 - Let us know if you're interested in joining the ISA Working Group

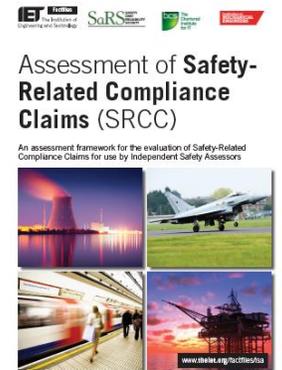
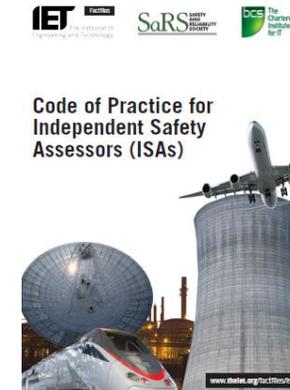
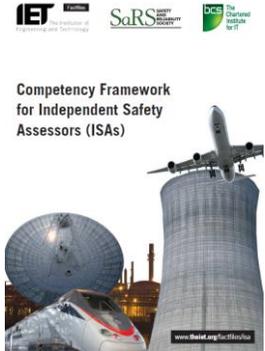
The Speakers

- **Steve Beech** – ISA WG Member since 2002, FIMechE, specialist in maritime, facility and explosives safety, background of ISA activities in the Defence Sector
- **Adrian Payne** – Safeguard Engineering Limited – A Chartered Naval Architect with over 26 years experience in the defence and the offshore / oil and gas industries. Has held positions as safety manager on major projects and as a consultant assisting the Ministry of Defence in defining safety policy and monitoring compliance, and providing independent assurance services
- **Cynthia Chia** – Cobalt Blue Consulting – A former EA regulator and Chartered Environmentalist with IEMA, Cynthia has 25 years' environmental management experience and is an experienced IEA and Environmental Case author across all defence domains. Cynthia is a IEMA registered Environmental Auditor

Guidance – Published

- General
 - ISA Working Group Terms of Reference
 - What is Independent Safety Assessment (ISA)?
- Professional
 - ISA Code of Practice for Independent Safety Assessors (ISAs)
 - Competency Framework for Independent Safety Assessors (ISAs)
- Substantive Guidance
 - Assessment of Safety Related Compliance Claims (SRCC)
 - Guidance on the Procurement of Independent Safety Assessors
- Guidance Notes / Position Papers
 - Guidance on the Use of Accident and Incident Data by ISAs
 - Documents useful to Independent Safety Assurance
 - Position Statement on Security, Safety and ISA

in Review for update



Webinar 2 – ISA WG position statement on Independent Environment Assurance (IEA) and its relation to Independent Safety Assurance (ISA) activities

- Requirements (specific to sector / customer) for single Independent Assurance Teams covering both safety and environmental elements of design and / or operation.
- Overlap between the ISA and IEA activities, and therefore guidance.
- Should the ISA WG also be developing its scope to include IEA guidance?

Next Event in the Series

Webinar 3: Procuring Software Intensive Systems – Pitfalls and Recommendations

Wednesday 18 November at 11:00
(Register at IET Events)

Are you interested in joining the ISA Working Group?

Let us know by e-mailing SEP@theiet.org



Safeguard Engineering

integrating safety into systems

IET ISA WG – ISEA Experience

Adrian Payne

04/11/2020



Agenda

- Introduction
- Example ISEA projects
- Specific Joint ISEA audits
- Lessons Learnt
- Key take homes





Introduction

Adrian Payne

- BEng Hons Ship Science;
- Fellow of RINA;
- Member of SaRS;
- Safety manager roles;
- Policy development;
- SCR development;
- Auditing experience.





ISEA Projects

- Defence Maritime Services;
- Queen Elizabeth Class;
- Amphibious Projects;
- Commercially Supported Shipping;
- Mine Counter Measures;
- T45 Destroyers.





ISA Scope & Competence

- Huge range in subjects from:
 - Organisational management structures, processes, procedures, etc.;
 - Port/ Ship operating practices;
 - Ship interfaces;
 - Systems and equipment.
- Audits span the entire client organisation and associated supply chain.
- ISA works requires:
 - the highest competency/ knowledge base;
 - Robust and in some instance detailed knowledge of Regulatory framework;
 - Highest level of professional integrity.



Specific Joint ISEA Audits

- Key Examples:
 - Organisational SEMSs and SEMP's;
 - Base management and implementation of SEMP's;
 - Pyrolysis system;
 - Highly Mechanised Weapon Handling System.
- Approach:
 - Joint audit plan;
 - Joint interviews/ documentation reviews;
 - Utilisation of common audit finding categorisation.
- Reporting:
 - Joint report;
 - Findings can and are presented and discussed at 3* level, so rock solid domain knowledge required.





Lessons Learnt

- Joint auditing requires close liaison between the ISA and IEA;
- Mutual respect for validity of respective findings;
- Can be crossover with respect to applicability of findings, e.g.:
 - Documentation management;
 - Robustness of meeting construct;
 - Hazardous Material Data Sheets;
 - Validity of test and trials;
 - Etc.
- Audit reporting tailored to client organisational construct.



Key Take Homes

- Joint ISA and IEA audits can be undertaken;
- Joint ISA and IEA auditing can be highly effective;
- ISA and IEA require mutual compatible levels of competencies to undertake effective joint audits;
- ISA and IEA require very different technical domain skill sets;
- Very high levels of competency required to act as ISA/ IEA.



IET ISA WG – The View of the IEA

Cynthia Chia CEnv MIEMA EA



COBALTBLUE
CONSULTING

Overview

- Introduction
- Typical IEA Scope
- Specialist Knowledge & Skills
- IEMA Auditor Registration Scheme

Typical IEA Scope*

- The IEA's drivers...



Legislation & Standards

- International Conventions & Treaties
- EU Directives & Regulations
- UK Legislation & Regulatory Guidance
- Standards, Code of Practices
- Organisational Policies & Procedures

Legislation

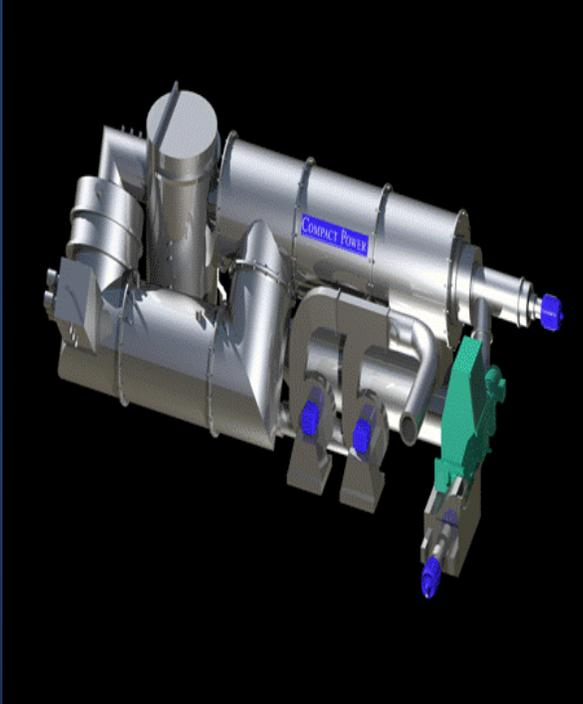
Trends



DUMP & DISPOSE



END-OF-PIPE CONTROLS



DESIGN



Typical IEA Scope*

- Cradle to grave (cradle), through life approach;
- Inputs and outputs of a product system/ activity/ development considering aspects:
 - Air Emissions & Climate Change
 - Water Consumption & Emissions
 - Waste (Hazardous, Non-hazardous)
 - Land Contamination
 - Nuisance (e.g. odour, noise, dust & PM)
 - Biodiversity & Ecology
 - Cultural heritage (e.g. Archaeology)
 - Social Impact (e.g. local traffic, employment)
 - Resources Use (Renewable, Non-renewable)
 - Materials Security & Hazardous Materials
- Direct, indirect and cumulative impacts.
- Applicable legislative obligations and clients' corporate policy requirements.

* Subject to project/ contract specific requirements.

Specialist Knowledge & Skills

- Qualifications:
 - Environmental sciences qualifications;
- Experience:
 - Broad applied knowledge of environmental management and at least 1 area of specialism (e.g. water, waste).

IEMA Auditor Registration Scheme

- Internationally recognised specialist Register;
- Different levels;
- Split between:
 - EMS Auditor (EMS audits only)
 - Environmental Auditor (broader audits including due diligence, legislative compliance risk or focus areas e.g. waste audits).
- Requirement for annual demonstration of CPD.

IEMA Auditor Registration Scheme

- Registration Applications are assessed on a points system with points awarded for differing levels of
 - Academic Qualifications
 - Membership of Professional Bodies
 - Relevant Training
 - Relevant Experience
 - Qualifying Experience (Core, Non-Core, Complementary)
 - Supervised Audits
 - Sector Experience
 - Written and Oral Examination (for higher levels)

EXAMPLES: CORE WORK	<ul style="list-style-type: none">• Single/Multi-issue environmental audits covering one or more of the following:<ul style="list-style-type: none">- Life-Cycle Assessments/products audits- Energy usage audits- Waste minimisation audits- Water usage audits- Legislative compliance audits- Activity audits- Issue audits- Atmospheric/pollution audits (not solely monitoring or sampling exercises)- Contaminated Land/pollution audits (not solely monitoring or sampling exercises)- Effluent/pollution audits (not solely monitoring or sampling exercises)- IPPC compliance audits- Chemical concerns/REACH – chemical usage audits- Producer Responsibility audit (i.e. WEEE)- Packaging Waste- Energy Usage- Climate change audits- Soil audits• Combined Health, Safety and Environment audits• Combined audits including sustainability• Environmental risk assessments, environmental liability or due diligence audits for companies involved in pre-acquisition, decommissioning, divestiture or merger activities• Climate Change Agreement; Greenhouse Gas Verification• Clean Development Mechanisms (CDM), Joint Initiatives (JI)• Project Acorn – BS8555/Green Dragon stage audits
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IEMA Auditor Registration Scheme

Appendix 1 - Qualifying Experience

Description of Activity/Audit	
EXAMPLES: NON-CORE WORK	<ul style="list-style-type: none"> • EMS Implementation (not auditing) including: <ul style="list-style-type: none"> • Writing of environmental management manuals or formulating environmental management programmes/strategies • Co-ordinating or managing the implementation of comprehensive environmental management systems (other than ISO 14001) • Co-ordinating or managing the implementation of ISO 14001 • Co-ordinating or managing implementation of the EC Eco-Management and Audit Scheme (EMAS) • Review of existing performance, environmental policies or environmental management practices • Environmental review for the purpose of the Environmental Protection Act 1990 • Formulation or writing of company Environmental Policy/Code of Professional Conduct/Statement for internal use or public issue • Formulation of quantified environmental objectives and targets as a basis for subsequent audit programmes and strategies • Running environmental audit or environmental management systems seminars/workshops or lecturing at conferences on relevant topic areas • Commissioning audits • Managing company-wide environmental audit programme • Audit 'follow-up' management • IPPC Applications • Envirowise waste reviews, and other similar reviews (including hotel and leisure industry schemes) • Eco-homes and BREEM • Code for Sustainable homes • Climate adaptation • Conducting audits for ISO 14001 Assessment • Conducting audits for EMAS Assessment • External/independent verification of environmental audit/environmental audit statement/corporate environmental report • Development or writing of environmental audit guidelines, protocols, manuals, checklists, matrices or rating systems

Appendix 2 - Examples of Complementary Work Experience

- Environmental Impact Assessment
- Terrestrial ecological surveys
- Freshwater ecological surveys
- Landscape/visual assessment
- Nature conservation/landscape planning
- COMAH, HAZOP, Hazard risk assessment
- Dust, noise, vibration, odour, litter assessments
- Atmospheric pollution dispersion modelling/monitoring
- Microbiological/toxicological monitoring/legionella audits/asbestos audits
- Multi issue health and safety audits/COSHH assessments
- Pollution incident/spillage investigations/pollution amelioration
- Contaminated land/surface water/groundwater studies
- Landfill gas/leachate monitoring
- Waste/hazardous waste management
- Process engineering/engineering feasibility studies/plant construction and design
- BAT/BATNEEC/BPEO studies/pollution amelioration
- Enforcement (pollution) work
- Recycling
- Building assessments/BREEAM studies
- Environmental information technology
- Audit software development
- Development of quality management system/total quality management system/ISO 9000
- ISO 9000 audits/certification
- Expert witness/legal advice to audit teams
- Preparation of IPPC (Integrated Pollution Prevention and Control) application
- Forest Stewardship Council Chain of Custody audit (FSC CoC)

Appendix 3 - Industrial Sectors (NACE Codes)

A	Agriculture, Hunting and Forestry
B	Fishing
C	Mining and Quarrying of energy producing materials
D	Manufacturing
DA	Food products, Beverages and Tobacco
DB	Textiles and Textile products
DC	Leather and Leather products
DD	Wood and Wood products
DE	Pulp, Paper and paper products; publishing and printing
DF	Coke, Refined Petroleum products and Nuclear Fuel
DG	Chemicals, Chemical products and manmade fibres
DH	Rubber and Plastic products
DI	Non-metallic mineral products
DJ	Basic metals and fabricated metal products
DK	Machinery and Equipment N.E.C
DL	Electrical and Optical equipment
DM	Transport equipment
DN	Manufacturing N.E.C
E	Electricity, Gas and Water supply
F	Construction
G	Wholesale and Retail trade, Repair of motor vehicles and personal and household goods
H	Hotels and general catering
I	Transport, Storage and Communication
J	Financial Intermediation
K	Real estate, renting and business activities
L	Public Administration and Defence; Compulsory Social Security
M	Education
N	Health and Social Work
O	Other Community, Social and Personal Service activities (including sewage and waste disposal)
P	Private households with employed persons
Q	Extra-territorial organisations and bodies

IEMA Auditor Registration Scheme

GET IN TOUCH

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Background

- Requirement (specific to sector / customer) for the parallel assessment of Safety and Environmental protection
- Risk – Common to safety and environmental assessment
- Impact – Environmental assessment only
- Rule based compliance, based on Legislative and Regulatory requirements
- No clear boundary between the two disciplines, as a single hazard generating a safety risk, may present different environmental risks and impacts
- Legislation and Regulatory frameworks for Safety and Environment are distinct (and may even be in conflict sometimes)
- From the perspective of the safety assessor the safety of a system can depend in part on matters relating to environmental protection

Basis of Opinion

- The relationship between safety risk and environmental risk;
- Implications of environmental protection for technical aspects of safety assessment;
- Implications of environmental protection for professional aspects of ISA.

ISA WG Opinion

- Recognises the importance of addressing environmental risks and impacts
- Recognises that safety and environmental requirements may need to be balanced
- Believes that harm to humans from both safety risks and environmental impact and risks needs to be addressed in a coordinated way
- Encourages the development and use of processes, methods and standards that co-ordinate both environmental protection and safety
- Recommends that if a system could have an environmental impact that may result in harm to humans, the safety and environmental programmes are co-ordinated
- Recognises IEMA as the body which provides advice, guidance, and registration of environmental auditors