S E G I

Safety & Environment General Inspection

WHO AM I ?

Experience :

- Since 2012 : HSSE Inspection Task Force Project Leader, and lecturer at TOTAL HSE for Managers training

- From 1973 to 2012 : TOTAL (France, Canada, UK, China, Indonesia, Brunei, Algeria, Tunisia, Kenya, Congo) - Various positions over the 45 years spent with Total, ranging over Engineering, Offshore and Onshore Operations, Top level management, Communication, Business Planning & Development and HSSE-SD (Senior Vice-President for Upstream activities from 2004 to 2007).

Education :

- Masters of Science in Physics (1969)
- Postgraduate research in Applied Geophysics (1970)
- French Petroleum Institute : Petroleum Engineer (Drilling & Production) (1971)

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Introduction

Historical background

- Decision taken by TOTAL CEO in August 2009
- Due to bumper build up of major incidents on Seveso High level sites in France
- Main objectives :
  - Evaluate the level of operational requirements of the sites
  - Understand why so many deviations to rules, inducing major incidents
- A team of 15 inspectors was set, with experts from all Branches, to investigate Safety issues
- In 2010, the concept was extended to Environment, and to all activities around the world
- Since 2009, 70 sites have been inspected with very positive feedback from involved parties

Introduction

- SEGI is a peer review to investigate safety & environment matters by a team having good expertise in the different themes addressed
- It is not an audit but it is a peer review. There is no list of predefined questions. The guidelines list all the subjects to be considered by the SEGI experts according to their experience.
- There is no score delivered by the SEGI. Progress will be measured when the improvement plan is performed
- The SEGI report is synthetic and its focus is on major points to be corrected or improved. The recommendations are based on field observations, interviews & document reviews
- Interviews with staff at every level and also with the personnel representatives (Health and Safety Committee) is a favored tool to obtain pieces of information and to have them crosschecked
- SEGI is not only a technical inspection but it deals also with organization subjects

General Organisation

General Organisation

- The SEGI is performed by a number of experts in the following domains :

- The focus of each group is highlighted in slides 8 -> 19

General Organisation

- The following site employees are the contact persons for each of the SEGI groups :
  - ✓ Group 1 : HSE Manager
  - ✓ Group 2 : Senior Process Safety Engineer
  - ✓ Group 3 : Operations Manager
  - ✓ Group 4 : Engineering Manager
  - ✓ Group 5 : Head of Inspection
  - ✓ Group 6 : Site Environment Coordinator
- The different SEGI Groups get in touch with their respective contact persons to propose a detailed planning (interviews, visits,….)
- The planning for all SEGI Groups needs to be consolidated by the site

Focus of the Groups

Focus of Group 1 (Organisation)

- Relevance / Efficiency of the organizations in place with regard to HSE
- Management of action plans and the associated priorities
- Crisis Management
- Competencies & training
  - ✓ Organization of staff training
  - ✓ On the job training / Training in downgraded situations and process emergency situations
  - ✓ Transmission and maintenance of know-how
  - ✓ Rate of job turnover in critical positions
  - ✓ Management of personnel development
- Occupational medicine, Industrial Health
- Internal communication
- Evaluation of :
  - ✓ The individual objectives with regard to HSE
  - ✓ The managers commitment to HSE
  - ✓ The level of staff involvement
  - ✓ The level of safety / environment culture (prescriptive and participative management, golden rules…)

Focus of Group 2 (Technological Risks)

- Evaluation of Process Safety skills
  - ✓ Process Safety Training
  - ✓ Emergency preparedness
  - ✓ Major risks management organization
  - ✓ Communication, knowledge & awareness of major accident scenarios
- Process risk analyses (Seveso Safety report, HAZOP, PHA, LOPA, QRA, Buildings sitting…)
  - ✓ Identification of major accidents scenarios and implementation of those
  - ✓ Identification of Safety Critical Equipments
  - ✓ Risk zoning (internal and external impacts)
  - ✓ Emergency plans (internal and external)
- Safety equipment by-passing
- Downgraded situations
- Analysis of incidents / accidents and feedback processes (lessons learnt)
- Management of the Returns of Experience,
- Management of Change
- Follow-up of action plans (Audits, PHA, accident analysis,….)
- KPI on echnological Risks
- Document management (P&ID, synoptics)
- Plant Standards (Buildings, LPG storage, Tank farms, Loading/unloading facilities, ROIV's, fireproofing, Fire and Gas detection, Fire fighting equipment, etc.)

Focus of Group 3 (Operations)

- Definition of functions and personal objectives (integration of Safety)
- Knowledge and management of risks –Communication
- Process Emergencies / Downgraded situations
- Conformity to procedures and standing instructions: identification of discrepancies from requirements
- Documentation available
- Operations methods. Updating of operation procedures and integration of Safety
- Shift Change Overs
- Shunting of safety equipment and management of these situations
- Work permits / Preparation of equipment before handing over to maintenance/ Works launch (control room & field) / Coordination with the maintenance

Focus of Group 4 (Maintenance / Contractors)

Maintenance

- General organization
- Maintenance methods (procedures, work preparation, scheduling…)
- Equipment technical monitoring / Spare parts management
- Portfolio management (work requests, priorities, backlogs, bad actors…)
- Documentation
- Work permit process

Contractors

- Subcontractors assessment / Approval
- Staff training and certification
- Subcontractors internal safety policy
- Examination of working conditions (work permits, job hazard analysis…)
- Relations between the site and the contractors
- Visit of works performed

Focus of Group 5 (Inspection / Mechanical Integrity)

- Regulation applicable to pressure equipment
- Organizational and management requirements
- Monitored equipments
- Resources of the Inspection Department
- Inspection methods
- Inspection plans
- Risk Based Inspection
- Corrosion Under Insulation approach
- Critical equipments
- Specific programs for the inspection / control of weak points
- Inspection reports
- Subcontracting
- Quality system
- Non conformities
- Management of leak boxes

Focus of Group 6 (Environment)

- Chronic & Accidental impacts on the Environment and Human Health
- Emergency scenarios & emergency planning, feedback from experience (REX)
- Targets:
  - ✓ Air
  - ✓ Water
  - ✓ Soil
- Waste Management
- Environmental Management and Culture
  - ✓ Organization
  - ✓ Objective definitions
  - ✓ Integration of environmental concerns in production operations, maintenance, contractors and suppliers follow-up
  - ✓ Training , …
- Stakeholders
- Societal issues linked to the operations

SEGI Planning

SEGI Planning

Day 1

Morning

- Site presentation by top management (including safety management and policy, KPI's, main issues, projects, programs, action plans,…). Expectations from SEGI
- Presentation of the SEGI team and the methodology used – Fine tuning of the agenda
- Meeting with personnel representatives (HSE Committee)

Afternoon

Group 1	meeting with Work Council (1 hour and half, early afternoon if possible)
Group 2	visit of LPG storage, storage tank farm, jetty, truck/train loading stations, control rooms
Groups 1, 3 and 4	general tour of site facilities and may perform first interviews
Group 5	site visit dedicated on inspection aspects
Group 6	site visit dedicated on environment aspects

SEGI Planning

Day 2 to Day 4

For each of the Groups

- ✓ Interviews with staff (all levels)
- ✓ Documents review
- ✓ Plant observations (equipment and work situations)
- ✓ Site meetings

According to the planning established by each Group with the site contact person (see slide 7)

During the week, Group 3 shall attend one shift change over (afternoon to night) and it should attend Work Permit issuing (presumably at the beginning of morning shift) and also works performance on the site. It will also attend operations meetings, coordination meetings with maintenance and will interview operations employees at different positions from operators to manager.

At the end of each day

- Internal SEGI team meeting (from 5 to 6 pm)
- Daily feedback from the SEGI team to site representative (6 pm)

SEGI Planning

Day 5

Morning

- Preparation of the debriefing by the SEGI team

Afternoon

- Debriefing of SEGI findings
- Recommendations

SEGI Planning

If an exhaustive report is needed, within three months :

- Wrap up of all the notes and recommendations by a coordinator from the SEGI team
- First draft of the report sent to the site Manager for comments
- Integration of the site Manager comments and screening of the wording by the HQ Legal Department
- Final approval of the report by each SEGI team member
- Release of the report in a restricted number of copies

Conclusion : SEGI is NOT redundant with an audit

- An audit checks a list of requirements…
- …but the objective is different:
  - **It aims at a rating on exhaustiveness of a referential…**
  - **…with auditors who are not experts in general…**
  - **…and who can hardly detect the root causes of dysfunctions**
- SEGI can work only with “old crocodiles” or experts
- SEGI does not replace audits, but it is a compulsory complement
- SEGI showed itself to be very useful in Joint Venture or OpCo operated sites