

Offshore Safety: Instruments for Directive 2013/30/EU Implementation – Ravenna, 30 March 2017

First checks for Offshore Directive application by Independent Verifier

Directive 2013/30/EU – Independent Verification

- Art . 17 Scheme established by operators or owners
- Selection of the independent Verifier and design of schemes for independent verification shall meet the criteria of Annex V
- Requirements for the independent verifier
 - Independent of design and management of SECE
 - Suitable technical competence

Independent Verifier Role for Installations

To give independent assurance that the **SECE** identified in the risk assessment for the installation, as described in the ROMH,

- are **suitable**;
- their schedule of examination and testing is **suitable, up-to-date and operating as intended**.

suitable = capable to provide expected performance, when required

- **SECE**
 - Parts of an installation, HW and/or SW, the purpose of which is to prevent or limit the consequences of a major accident,
 - Components, whose failure could cause or contribute substantially to a major accident

First checks for Offshore Directive application

- Late 2016/early 2017 **first Italian applications** (DLgs 145/2015)
- A fixed offshore platform for gas production, with reference to a project of completion of the sealines used to transport the product to shore
- A fixed offshore platform, with reference to both the phase of normal gas production and the SIMOPS relevant to wells maintenance
- A fast move workover rig, used for offshore wells operation

RINA Performed Verification – Method Statement

- **2 steps**

- Review of the ROMH in order to verify that all the safety features relevant to the plant under examination were included, by providing a rational and shared base for the systematic and correct identification of the SECEs

(1st target: the identified SECE list is suitable)

- Once SECE list deemed suitable, analysis of the Performance Standards, provided for the different SECEs, in order to verify that they cover all the requirements for appropriate maintenance, testing and updating during the foreseen service

(2nd target: the schedule of examination and testing of the SECEs is suitable)

IV Application - Basic reference

- RINA background on the plants
 - Certification of platforms structure / Life extension
 - Rig classification
 - Certification of Safety Management Systems
- Applicable RINA Rules and International Standards
 - Rules for Classification of Fixed Offshore Platforms
 - Rules for the design and construction of drilling system
 - (...)
 - ISO 3702. Control and mitigation of fires and explosions on offshore production installations -- Requirements and guidelines
 - ISO 17776:2000. Offshore production installations – Guidelines on tools and techniques for hazard identification and risk assessment
 - (...)

IV Application - 1 - Data Gathering

- Operation
 - Topside Process
 - Simultaneous
 - Subsea/Sealines
 - IMR Plans
- Safety (HSE, drilling area stakeholders)
 - Design criteria
 - Service life records
 - Certifications
 - Safety (OHSAS 18001) Environment (ISO 14001)
 - Structural Barrier (Jacket & Deck, Rig) (RINA Rules)

IV Application - 2 - ROMH Review and SECE id

ROMH

- Identification of the risks relevant to the process and surrounding environment
- Risk assessment by Bow-Tie methodology
- Evaluation of the probability of occurrence of accidental scenarios where safety barriers (preventive and mitigating) are not ensuring a full risk management (**Major Hazards Scenarios**)
 - Consequence evaluation



- identification and evaluation of the accidental scenarios are appropriate
- Any preventive and mitigating barrier, from Bow-Tie diagrams, has been included in the SECE list
- **SECE identification complete and adequate**
(also compliance with Reg Europeo 1112/2014)

IV Application - 3 - Performance Standards Review

- Barriers effectiveness evaluation according to FARSI criterion
- Independent verification outcomes:
 - Each barrier functionality has been identified in an accurate and measurable way;
 - Maintenance activities, testing and checks schedules are in compliance with the applicable industry best practice and, as planned, aimed at granting the required reliability of the SECEs during the plant life-cycle;
 - Verifications and maintenance activities are planned to be recorded;
 - Survivability criteria are appropriate for the examined plants;
 - Dependency / independency between the barriers has been duly considered.

IV Application - Conclusions

- Reported in RINA RVI
 - Identified SECEs are suitable
 - Any SECE has a PS sheet reporting required performance and relevant test and maintenance plan
- Monitoring SECE suitability by IV
 - Review of KPI records relevant to SECE performance
 - Records of future inspection and maintenance activities
 - Maintenance backlog (being existing plants)
- **To share** with offshore operators and competent authorities experience and examples of best practice in order to minimize the risks for human life and environment