

**HHRM**

HELLENIC HYDROCARBON  
RESOURCES MANAGEMENT

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**INTERNAL EMERGENCY RESPONSE PLAN  
REQUIREMENTS**

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**UNDER L. 4409/2016**



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# 1 INTERNAL EMERGENCY RESPONSE PLAN

This Guidance is an update of Chapter 11 of HHRM's Guidance Document entitled "Report on Major Hazards and Notifications", which, due to its scope and gravity, is hereby published as a separate document. According to Article 11 Paragraph 1(g) of N. 4409/2016, the Report on Major Hazards must include a description of the operators or owner's internal emergency response plan (IERP). This guidance document details the basic requirements of an IERP. The description of the internal emergency response plan should provide evidence that it satisfies these requirements; however, the contents of each installation-specific IERP will need to be formulated according to circumstances and will be assessed accordingly.

Sections 1.1 to 1.4 provide the structure and requirements for a description of the internal emergency response plan within the RoMH, while Sections 2 and 3 describe the basic requirement for financial capacity and updating. Reference is made to the Annex 1(10) requirements in N.4409/2016, extracts from which appear in a blue box in the appropriate section for cross-reference.

## 1.1 Organisation

Point (1)	names and positions of persons authorized to initiate emergency response procedures and the person directing the internal emergency response;
Point (2)	name or position of the person with responsibility for liaising with the authority or authorities responsible for the external emergency response plan;

1. Describe the emergency response organisation showing the roles and responsibilities of its team members, with:
  - a) names and positions of persons authorised to initiate emergency response procedures and the person directing the internal emergency response, including a flowchart diagram of the chain of command;
  - b) key roles and responsibilities of the onshore response team and subcontractors including the position of the person responsible for:
    - i. Initiating the person, body or organisation responsible for pollution response;
    - ii. Activating the procedures for mobilisation of a capping device, or emergency relief well where applicable;
    - iii. Mobilisation of contractors
  - c) Name or position of the person with responsibility for liaising with the authority or authorities responsible for the external emergency response plan.

For each key role, a substitute should also be included. Attention must be paid so that the same person is not assigned multiple emergency functions which cannot be handled simultaneously.
2. Describe how:
  - a) Command by competent persons is maintained throughout an emergency; and
  - b) A sufficient number of suitably competent persons are on the installation to carry out emergency duties and to operate relevant equipment.
3. Contact details, emergency numbers etc. of all key persons and authorities involved must be included in the plan. These need to be up-to-date and their validity examined every 6 months.
4. Details of suitable onshore facilities where the operator's emergency response team may convene in order to handle the emergency. The facilities must also be suitable for use by the National Offshore

Crisis Management Team (NOCMT), if necessary. The operations room must be suitable to accommodate at least 15 people and it must contain a number of operational telephones, sufficient power sockets, wall boards, laptop computers, screens or projectors, writing material, provisions for secretarial support, as well as systems to guarantee the seamless continuation of the work in the operations room.

5. Details of neighbouring installations (Name, Type, Status, Direction and Distance (km))

## 1.2 Plans and Procedures

Point (3)	a description of all foreseeable conditions or events which could cause a major accident, as described in the report on major hazards to which the plan is attached;
Point (4)	a description of the actions that will be taken to control conditions or events which could cause a major accident and to limit their consequences;
Point (5)	a description of the equipment and the resources available, including for capping any potential spill;
Point (6)	arrangements for limiting the risks to persons on the installation and the environment, including how warnings are to be given and the actions persons are expected to take on receipt of a warning;
Point (7)	in the case of combined operation, arrangements for coordinating escape, evacuation and rescue between the installations concerned, to secure a good prospect of survival for persons on the installations during a major accident;
Point (9)	arrangements for providing early warning of a major accident to the authority or authorities responsible for initiating the external emergency response plan, the type of information which shall be contained in an initial warning and the arrangements for the provision of more detailed information as it becomes available;
Point (11)	arrangements for coordinating internal emergency response with external emergency response;

6. Provide an overview of the internal emergency response plan demonstrating that:

- a) It reflects the identified threats arising from the installation and its operation. The plan to respond to major hazards should be scenario based, and reflect the identified major accidents.
- b) It includes the actions which should be taken to control each accident scenario and to limit its consequences.
- c) It describes the equipment and the resources available for emergency response, which should be consistent with the inventory of emergency response equipment that is produced pursuant to Article 19(6) of the Law, and how long before these can be made available. The inventory of pollution response equipment available should cover emergency response pertinent to the operations. This description should include details of ownership, storage locations, transport arrangements to deployment site, mode of deployment, estimated times for transportation and deployment and the measures in place to ensure that the response equipment and procedures are maintained in an operable condition.
- d) It describes the coordination of recovery arrangements for persons on the installation affected by a major accident hazard.
- e) It identifies any dependency on human intervention at any stage

- f) It is an integral part of the overall SEMS as a control measure subject to the same checks as all other control measures including processes for testing, review (especially after emergency response drills), training and informing persons of its operation.
  - g) It ensures effective communication and coordination between different parts of the internal organisation, both offshore and onshore, and between the owner and operator organisations in the case of combined operations.
  - h) If the plan relies on support from third parties, it should describe how those inputs are coordinated. Named third parties may include marine and aviation emergency services, and other operators and owners present in the vicinity.
7. Within the above overview, justify assumptions regarding actions required, timing, effectiveness of detection methods and decision-making processes and the range of emergencies that could occur. The emergency plan must be robust and take into account the conditions that may prevail in a real emergency which often make it difficult to achieve ideal responses.
  8. Describe how response tier levels are identified and escalated. Where response arrangements transfer from one person to another, the mechanism and management for this must be described (e.g. where an installation operator Tier 1 response transfers or escalates to the well operator's Tier 2/3 response).
  9. Demonstrate how the IERP is linked to the existing External Emergency Response Plan with respect to alerting the appropriate authorities, providing suitable information and ensuring coordination at all levels.

## 1.3 Emergency Response

As stated in paragraph 1.2 above, all major accident scenarios should be included in the IERP. These include, where relevant, and *as a minimum*, response to the events of fire; blow out; environmental pollution; radiological accident; toxic gas release; search and rescue; terrorist attack, and; cyber-attack. The following serve as extra guidance for the specific cases of evacuation, toxic cloud formation and oil spill pollution, while all other possible scenarios identified must be included and described as appropriate.

### 1.3.1 Evacuation

10. Describe the number and location of life-saving equipment. There must be sufficiently suitable life-saving appliances for effective and efficient use in critical situations, including the rescue of people overboard and the evacuation of all occupants directly to sea. The rescue equipment must at least be equipped to allow survival for a sufficiently long time, and placed on the installation in such a way that controlled evacuation of all persons on board can take place efficiently.

On installations classified as mobile offshore drilling units, the rescue equipment will at least meet the latest version of the MODU code and full justification, with quantitative risk analysis where appropriate, will be required in case the rescue equipment does not satisfy the above requirement.

On permanently manned fixed installations, the rescue equipment must comprise motor-driven and covered lifeboats.

When performing well activities, one or more auxiliary vessels must be included in the emergency preparedness for the installation. An auxiliary vessel must be designed, equipped and manned in an emergency situation to be able to pick up people in the water, provide first aid and be suitable for evacuating all persons on board the facility.

11. Demonstrate appropriate arrangements for the uninterrupted functioning of control systems to prevent damage to the installation and the environment if all personnel are evacuated.

### 1.3.2 Toxic Cloud Modelling and Response

12. Where release of toxic gases is a possible emergency scenario

- a) Detail the possible types of toxic cloud formation (eg. H<sub>2</sub>S, combustion gases including CO, CO<sub>2</sub>, SO<sub>2</sub> etc)
- b) Provide estimations of toxic cloud dispersion through suitable modelling methods. The modelling should include weather-related factors affecting the dispersion and should identify the extent of affected areas, including populated areas onshore.
- c) Provide evidence of available real-time models that can be used to predict the direction and fate of the toxic cloud. State how real time dispersion modelling will be sourced or contracted.
- d) Provide evidence of availability of suitable real-time monitoring facilities for the specific types of gases (eg. H<sub>2</sub>S), on SBVs and onshore in areas that may be affected.

### 1.3.3 Oil Spill Modelling and Pollution Response

Point (8)	an estimate of oil spill response effectiveness. Environmental conditions to be considered in this response analysis shall include:
(i)	weather, including wind, visibility, precipitation and temperature;
(ii)	states, tides, and currents;
(iii)	presence of ice and debris;
(iv)	hours of daylight; and
(v)	other known environmental conditions that might influence the efficiency of the response equipment or the overall effectiveness of a response effort;
Point (12)	evidence of prior assessments of any chemicals used as dispersants that have been carried out to minimize public health implications and any further environmental damage.

#### **Modelling:**

13. Detail which major accident scenario will result in the estimated worst case release of oil scenario and its derivation.
14. Provide estimations of oil spill movement using suitable modelling methods. The modelling should include weather-related and other factors affecting pollution and should identify the extent of affected areas, including shorelines.
15. The IERP must contain details of relevant environmental sensitivities in the area. These include sensitivities related to seabirds, cetaceans and fishery (spawning and nursery grounds) etc; and identification of all protected areas which may be impacted in the event of a release.

#### **Monitoring and Surveillance (from installation, vessel, aircraft, satellite):**

16. The movement of any visible pollution must be tracked and methods used to undertake this must be detailed.
17. Sources of suitable satellite imaging must be identified, including the competent bodies suitably skilled in real-time processing and evaluation of data. State how real-time spill modelling will be sourced or contracted.
18. Surveillance aircraft should have: marine VHF radio; digital still and video capabilities; satellite phone; suitable navigation equipment including a Global Positioning System (GPS); and trained and experienced personnel.

19. Establish the method of quantification of any oil released to sea. Detail how such quantifications will be undertaken acknowledging that there are a number of methods to achieve this, ie. measured, calculated or based on the Bonn Agreement Oil Appearance Code (BAOAC).

**Response:**

20. Summarise the strategies used to facilitate a prompt and effective response to a pollution event, including details of how and when they would be employed. As a minimum, the list of strategies below must be considered and justification provided if any of them are not utilised:

- a) Containment and Recovery (booming and mechanical recovery);
- b) Source Control (well capping and relief well operations); and
- c) Dispersion (natural or chemically/mechanically assisted).

21. For containment and recovery

- a) Confirmation of availability of suitable numbers of equipment (including materials for booming and recovery, support vessels), including an estimate of the time needed for deployment;
- b) Details of the weather conditions under which these can be safely and effectively deployed; and
- c) An indication of the management of oil spill waste (including possible contracts/mobilisation arrangements with waste removal contractors, temporary storage, transportation means etc).

22. For well capping device deployment

- a) Details of the capping device(s) deemed suitable for use;
- b) Confirmation that the suitability of the capping device(s) has been fully assessed and is compatible with the well infrastructure and is certified for the anticipated well pressures;
- c) Identification and contact details of the specialist contractor(s) providing the device(s);
- d) An estimated breakdown of the time required to complete the well capping operation from the day the capping operation is decided upon to the day the well is successfully capped; and
- e) Any arrangements necessary for transportation of the equipment, including suitable port/airport facilities and authorisations/issuing of permits necessary.

23. For the drilling of a relief well

- a) Identification of suitable locations for a relief well. The locations must have been surveyed for their suitability (eg. geotechnical assessment, geophysical surveys etc).
- b) Any specific MODU configuration required to drill the relief well (e.g. HP/HT, deep water etc.);
- c) A list of available MODUs in the wider area that may be utilised to drill the relief well; and
- d) An estimated breakdown of the time required to complete the relief well operation from the day the relief well operation is decided upon to the day the well is killed. The timing of obtaining an acceptance for the RoMH for the MODU and the assessment of the NOWO by HHRM must also be considered in this estimation.

24. Where the use of dispersants has been identified as a suitable response strategy

- a) Confirmation of availability of adequate quantities ( $m^3$  or tonnes) of suitable dispersants in the designated onshore facilities and, where applicable, on the Standby Vessel (SBV) or other response vessels.

- b) An estimate of the time needed for deployment of the dispersants
- c) Proof that the dispersants selected are in the list of approved dispersants by the Greek State
- d) Confirmation of availability of suitable vessels or aircraft to deploy the dispersants.

25. The oil spill modelling and effectiveness assessments must include any potential trans-boundary impacts.

## 1.4 Training and Exercises

Point (10) arrangements for training personnel in the duties they will be expected to carry out, and where necessary coordinating this with external emergency responders;

26. Detail emergency response training requirements and how key personnel are known to be competent including:

- a) Number of emergency drills (at least once a year). The internal emergency response plan must detail oil pollution response exercise requirements such as planned drills based on major accident scenarios. Oil recovery equipment must be tested and deployed annually. Government authorities, including the Coastguard and HHRM, must be made well acquainted with the timing and content of planned exercises, so that they may observe or participate in them.
- b) Adequate instruction and training to all persons on the installation in the appropriate action to take in an emergency including access to the plan itself.
- c) Proof that all personnel working offshore possess a valid offshore survival certificate such as attending a Basic Offshore Safety Induction and Emergency Training course or equivalent.
- d) The induction given to every person provides appropriate information on the procedure for evacuation, the significance of emergency signals, the location of relevant life-saving equipment and the action they are required to take in response to emergency signals and alarms.
- e) Appropriate instruction and training to key personnel and their substitutes, for example for persons responsible for the launching and operation of lifeboats as well as the radio system on them; firefighting; oil spill response, first aid etc.
- f) Proof that qualified personnel has completed a recognized well control course.
- g) The competence of the off-site emergency response team, including the availability of adequate staffing at all times, the training and competence of personnel, including their involvement in emergency drills.

27. Demonstrate that the following have been addressed:

- a) That the programme of drills covers the range of hazards that may be encountered;
- b) Appropriate processes exist for evaluating the success of drills and exercises and the management of subsequent corrective and preventative actions; and
- c) Involvement of external parties not at the installation (e.g. external emergency services, logistics providers, onshore management).

28. Describe how emergency response exercises involve the operators of standby vessels, marine and aviation emergency services as well as other emergency services which may have a role in shore-based aspects of an emergency.



## **2 LIABILITY FOR ENVIRONMENTAL DAMAGE**

29. Licensees must provide details to the Licensing Authority of suitable financial capacity through insurance membership or parent company guaranty for the offshore oil & gas operations, . The means of estimating the liabilities should be based on the worst case scenario and may be calculated in accordance with accepted methodologies in Europe or internationally.

### **3 UPDATING OF THE INTERNAL EMERGENCY RESPONSE PLAN**

30. The internal emergency response plan is updated every 5 years as part of the Report on Major Hazards, unless there are significant changes to the plan or a material change to the installation, in which case it must be resubmitted for approval to the competent authority. Changes may also be initiated by the Competent Authority or other Greek Authority following new legislation, findings from inspections or emergency drills, or changes to the External Emergency Response Plan.