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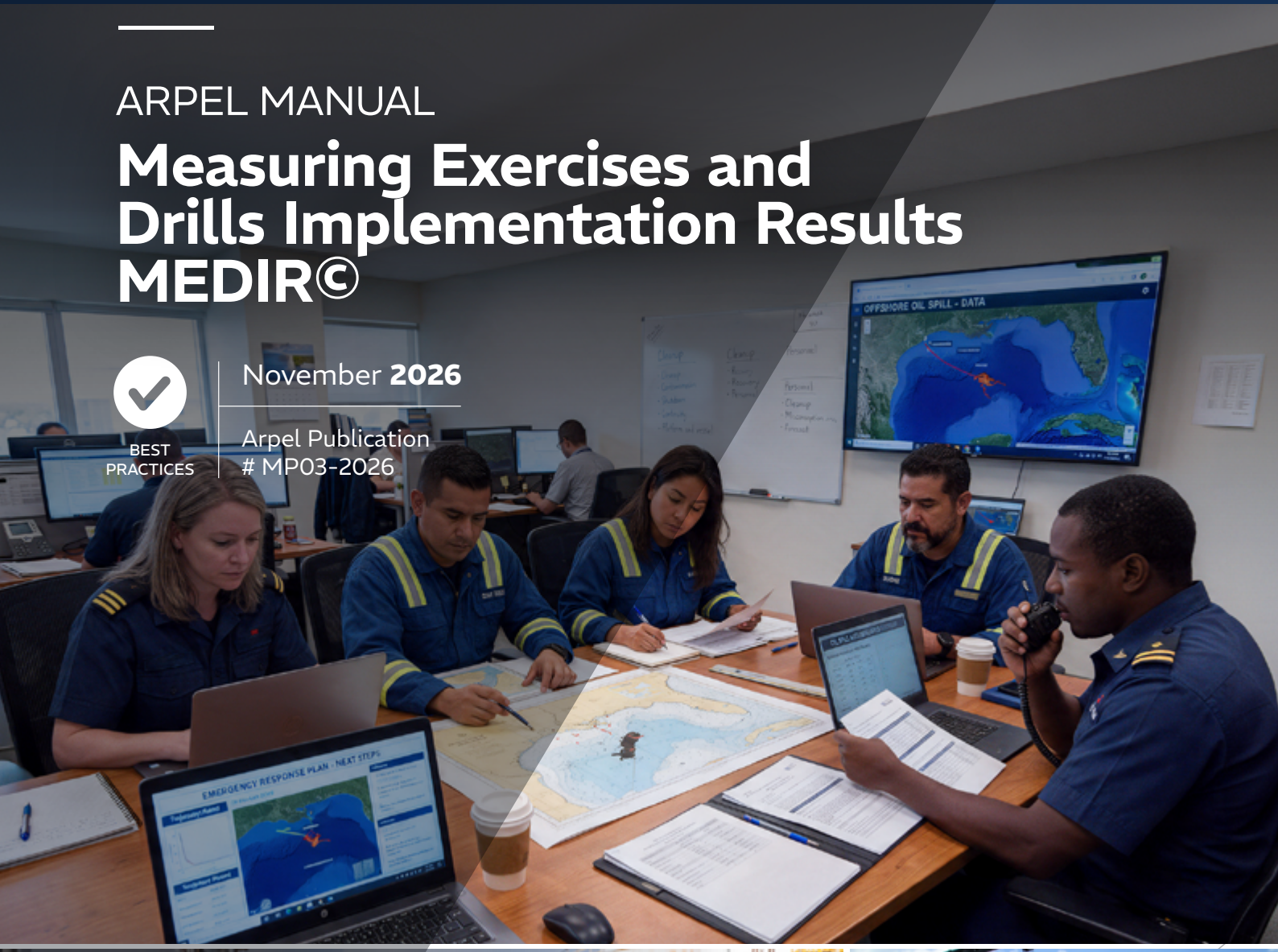
ARPEL MANUAL

Measuring Exercises and Drills Implementation Results MEDIR©

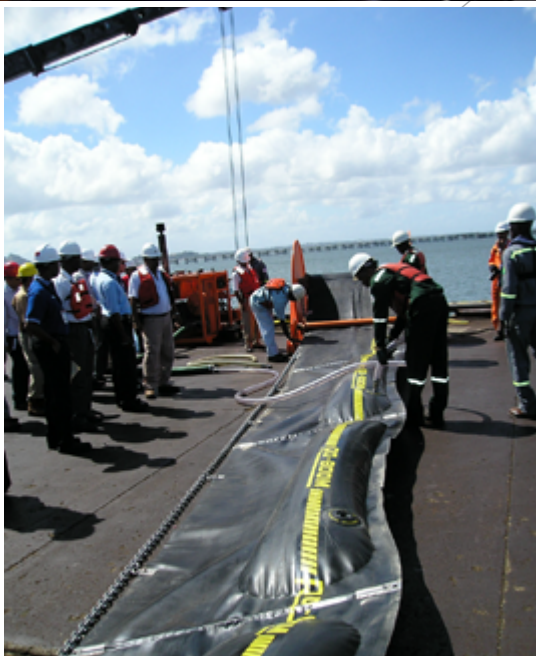
BEST PRACTICES

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ASSOCIATION OF OIL, GAS AND RENEWABLE ENERGY COMPANIES OF LATIN AMERICA AND THE CARIBBEAN

Arpel Manual | Measuring Exercises and Drills Implementation Results (MEDIR©)

In collaboration with Ipieca

Author

Upon request of ARPEL and its Emergency Response Planning Project Team, the development and review of this Manual and the MEDIR© tool was made possible thanks to the valuable input from the ***Arpel Exercises Task Force*** in collaboration with the *Ipieca Exercises and Collaboration Task Force,* comprised of:
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Disclaimer

The MEDIR© tool is intended solely as a support tool for the evaluation of emergency response exercises and drills. It provides a structured methodology to assist evaluators in documenting observations and promoting consistency in exercise assessments; however, it does not replace professional judgment or organization-specific evaluation procedures.
Exercise evaluation inherently involves professional interpretation. Although the MEDIR© methodology promotes consistency through standardized Assessment Criteria and Assessment Indicators, evaluation results may vary depending on the exercise objectives, scenario, available evidence, evaluator experience, and organizational context.
The quantitative scores and qualitative observations generated by the tool should be interpreted as indicators of exercise performance rather than definitive measures of an organization's overall emergency response capability or readiness. Results should always be considered together with evaluator comments, debriefing discussions, After-Action Reports, and other relevant information.
While every effort has been made to develop the MEDIR© methodology in accordance with internationally recognized good practices, **Arpel, Ipieca, their member companies, contributors, and the authors make no representation or warranty, express or implied, regarding the completeness, accuracy, or suitability of the tool for any particular purpose**, and accept no liability for any decisions, actions, or consequences arising from its use.
By using the MEDIR© tool, users acknowledge that responsibility for the interpretation and application of the evaluation results rests entirely with the organization conducting the exercise. The tool should be used as one element within a broader emergency preparedness and continuous improvement program.

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01.

Introduction and Objectives of this Manual

According to the International Guide for the Assessment of Oil Spill Response Planning and Preparedness (Arpel/IMO/Ipieca, 2023a), *"exercises provide opportunities to practice and test what is planned."* The Guide further states that *"exercise evaluation and follow-up actions are designed to provide opportunities for improvement"* and emphasizes that *"guidelines used for exercise design, identification of participants, exercise control, and evaluation should be defined."*

Similarly, Arpel RETOS™ (Arpel/IMO/Ipieca, 2023b), an internationally recognized tool used by industry and governments to evaluate oil spill response planning and preparedness, identifies exercises and training as essential components for maintaining response readiness and promoting continuous improvement.

International guidance on the planning and design of exercises is available in several technical publications, including API (2014), Ipieca (2016a), ISO (2013), and USCG–EPA–RSPA–MMS (2010). In addition, the Homeland Security Exercise and Evaluation Program (HSEEP) distinguishes between discussion-based and operations-based exercises. Definitions of these exercise types, as adopted from FEMA (2025a), are provided in the Glossary of Acronyms and Terms (Section 2 of this Manual).

Effective exercises are founded on sound planning and design. Equally important is a structured evaluation process that measures the performance of the response organization, identifies opportunities for improvement, and recognizes good practices. Exercise evaluation transforms the effort invested in planning and conducting an exercise into measurable outcomes that support continuous improvement of organizational preparedness and response capability.

This Manual provides practical guidance for evaluating both discussion-based and operations-based exercises. It also summarizes key considerations for exercise planning and design, including recommendations for developing the competencies of personnel responsible for conducting exercise evaluations. The guidance presented in this Manual is based on internationally recognized good practices and the references listed in the Bibliography.

The Manual also provides guidance for the application of **MEDIR© (Measuring Exercises and Drills Implementation Results)**, an Excel™-based exercise evaluation tool developed by Arpel. The name MEDIR derives from the Spanish verb *medir*, meaning to measure, reflecting the tool's objective of providing a structured and consistent methodology for measuring exercise performance.

MEDIR© incorporates concepts from the Homeland Security Exercise and Evaluation Program (DHS, 2020) and adapts assessment Categories and Criteria from the Drill Evaluation Checklist developed by the Washington State Department of Ecology (2021), complemented by additional exercise evaluation good practices contributed by Arpel member companies and Ipieca member companies.

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The following chapters describe the MEDIR© methodology in detail, including the principles of exercise evaluation, the structure and use of the MEDIR© tool, the interpretation of results, and the application of those results to strengthen organizational preparedness through continuous improvement.

Comments on how to improve the Manual or MEDIR© should be sent to: info@arpel.org.uy

02.

Glossary of Acronyms and Terms

After-Action Report (AAR)
An After-Action Report (AAR) is the formal document prepared following an exercise or an actual emergency that summarizes the evaluation results and identifies lessons learned. An AAR typically includes the exercise objectives, scenario, participants, methodology, observations, strengths, opportunities for improvement, recommendations, and proposed corrective actions. The report provides the basis for tracking improvement actions and strengthening organizational preparedness over time.

AHJ
Authorities Having Jurisdiction. These are highly involved stakeholders in the response (national authorities, regional entities, local officials, etc.). These are entities with the legal and practical power to enforce regulations and oversee safety measures. For a company, this could be a variety of entities depending on the specific situation, such as local fire departments, or even a corporate safety department. AHJ may be involved in approving plans, conducting inspections, and taking charge during emergencies.

All hazards response
For the purpose of this Manual and its accompanying MEDIR© tool, all hazards response is a comprehensive emergency management strategy that prepares for and reacts to diverse threats (e.g., natural or man-made disasters, pandemics, fires, or terrorist attacks) using a unified framework.

Away Team
Trained response team made up of employees from operating locations in other regions.

CERA
Consensus Ecological Risk Assessment. It is a structured, science-based decision-making tool used in environmental and spill-response planning to compare the ecological trade-offs of various response options

Debriefing
Structured discussion conducted immediately following an exercise or drill to review performance and capture observations from participants, evaluators, and Exercise Control personnel. The purpose of the debriefing is to validate observations, identify strengths and opportunities for improvement, clarify significant events, and support the preparation of the After-Action Report. A well-facilitated debriefing promotes organizational learning and continuous improvement.

Drills
An operations-based exercise which is often employed to validate a single operation or function.

ERTV
Emergency Response Towing Vessel – A vessel that can keep another vessel in distress in one position or, weather permitting, tow it to a safer location.

ESI maps
Environmental Sensitivity Index maps - Maps that provide a concise summary of coastal resources that are at risk if an oil or chemical spill occurs nearby.

Evaluator
Individual assigned to observe and assess the performance of participants during an exercise or drill. Evaluators document observations, assign Assessment Indicators to the applicable Criteria, provide objective comments and recommendations, and contribute to the exercise debriefing and After-Action Report. Evaluators should possess appropriate technical expertise and remain independent of exercise play to ensure an impartial assessment.

Exercise Control
Exercise control is the function responsible for managing and directing the execution of an exercise. It ensures that the exercise progresses according to the approved design, introduces scenario events and artificialities as required, coordinates exercise logistics, maintains exercise safety, and ensures that the exercise objectives are achieved. The exercise control organization operates independently from the exercise participants and works closely with the evaluation team throughout the exercise.

Exercise Design Team
Multidisciplinary group responsible for planning and developing an exercise. The team establishes the exercise objectives, develops the scenario, defines the scope and assumptions, identifies evaluation criteria, assigns roles and responsibilities, and prepares the documentation required to conduct and evaluate the exercise. Depending on the complexity of the exercise, the team may include representatives from emergency response, operations, health and safety, environmental, logistics, communications, regulatory affairs, and other relevant disciplines.

Exercise Objectives
An item with a distinct outcome that a jurisdiction/organization wishes to achieve during an exercise. An objective should be: Specific, Measurable, Achievable, Relevant, and Time-bound (SMART).

Full-scale Exercise (FSE)
An operations-based exercise that is typically the most complex and resource intensive of the exercise types and often involves multiple agencies, jurisdictions/organizations, and real-time movement of resources.

Functional Exercises (FE)
An operations-based exercise designed to test and evaluate capabilities and functions while in a realistic, real-time environment; however, movement of resources is usually simulated.

Geographic Response Plan (GRP)
Site-specific strategies for the initial response to a spill of oil or oil products on water. They are created to provide guidelines for responders in the event of a spill, which significantly reduces the time needed to make decisions during the initial response. A GRP provides the responders with essential information about the site, the equipment needed to carry out an effective response, access details, and other information, The goal of a GRP is to ensure that the response to a spill is fast and effective, and that sensitive resources are protected.

HNS
Hazardous and Noxious Substances. They are substances other than oil or other types of hydrocarbons that can harm human health, marine life, or the environment. They can be flammable, explosive, toxic, corrosive, or reactive.

IAP
Incident Action Plan. Document that outlines the objectives, strategies, resources, and communication plan for managing an incident, often within the context of emergency management. It's a key component of the Incident Command System (ICS) and ensures a coordinated and efficient response to emergencies.

IC
Incident Command(er)

ICS
Incident Command System. Standardized system used by FEMA and other agencies to manage emergency incidents. Also called Incident Management System.

ICS Forms
Standardized documents used to support the planning, organization, communication, resource management, and documentation processes of the Incident Command System (ICS) during emergency incidents and planned events. They provide a common format for recording incident objectives, operational assignments, resource status, communications, medical plans, and incident activities, thereby promoting effective coordination among all responding organizations. All these Forms referred to throughout this Manual and the MEDIR© tool can be found on the Internet (FEMA, 2025b).

JIC
Joint Information Center. Is a centralized location that coordinates emergency information, crisis communications, and public affairs during an emergency.

Lead Evaluator
Is the individual responsible for coordinating the overall evaluation process. The Lead Evaluator assigns evaluation responsibilities, provides guidance to evaluators, ensures consistency in the application of Assessment Criteria and Assessment Indicators, consolidates evaluation results, facilitates evaluator discussions during the debriefing, and contributes to the preparation of the After-Action Report. For large or complex exercises, the Lead Evaluator works closely with Exercise Control to ensure that the evaluation process remains aligned with the exercise objectives while maintaining evaluator independence.

NEBA
Net Environmental Benefit Analysis. It is a methodology used to compare response options and choose the strategy that minimizes ecological damage and promotes the fastest environmental recovery.

OSRV
Oil Spill Response Vessel. Is a specially built oil recovery vessel designed to serve as a command-and-control center as well as provide on-water recovery operations.

Performance Dimensions in ICS
Performance Dimensions in ICS exercises and drills are structured to evaluate how effectively a team can manage emergency operations using

standard protocols, aiming to measure accuracy, speed, and adherence to procedures. Common Performance Dimensions include decision-making, communication, situational awareness, team structure and operational management

RAR
In the context of remote sensing and environmental monitoring, RAR stands for Real Aperture Radar.

Response Readiness
State of preparedness that enables an organization to respond effectively and efficiently to an emergency at any given time. Response readiness reflects the availability and integration of trained personnel, response equipment, emergency plans, organizational structures, communications systems, mutual aid arrangements, and other resources necessary to implement an effective response. Maintaining response readiness requires a continuous cycle of planning, training, exercising, evaluation, and improvement.

Response Capability
Response Capability is the demonstrated ability of an organization to effectively manage and respond to an emergency using available personnel, equipment, procedures, resources, and organizational arrangements. Response capability encompasses both technical and management functions and is demonstrated through training, exercises, drills, and actual emergency response operations.

SCAT
Shoreline Cleanup Assessment Technique

SDS
Safety Data Sheet.

SIMA
Spill Impact Mitigation Assessment

Tabletop Exercise (TTX)
A discussion-based exercise in response to a scenario intended to generate a dialogue of various issues to facilitate a conceptual understanding, identify strengths and areas for improvement, and/or achieve changes in perceptions about plans, policies, or procedures.

03.

Exercise Objectives

Clearly defined exercise objectives are fundamental to the successful planning, execution, and evaluation of emergency response exercises. They establish the purpose of the exercise, guide the development of the scenario, and provide the basis for evaluating performance and identifying opportunities for improvement.

Exercises provide response personnel with the opportunity to validate the effectiveness of training programs, demonstrate response capabilities, and identify areas requiring additional training or procedural improvements. As such, they are one of the primary tools for assessing organizational preparedness and promoting continuous improvement while demonstrating a commitment to preparing for all-hazards emergencies.

Well-designed and effectively executed exercises provide an opportunity to:

- **evaluate and validate policies, plans, procedures,** training programs, equipment, planning assumptions, and mutual aid or contractual agreements;
- **clarify the roles and responsibilities** of response personnel;
- **improve internal and external coordination** and communication;
- **identify gaps** in personnel, equipment, or other response resources;
- **measure the performance** of the response organization; and
- **identify opportunities** to strengthen emergency planning, training, and future exercise programs.

The purpose of an exercise is defined by the exercise objectives established by the exercise design team. These objectives should reflect the organization's training and capability development needs while considering the selected scenario and the response functions to be exercised.

In most cases, organizations should select objectives that achieve an appropriate balance between:

- practicing the operation of the Incident Management System and core response organization; and
- evaluating the technical response strategies and operational tactics required by the selected scenario.

Well-defined objectives also establish the basis for evaluating exercise performance, ensuring that observations, findings, and recommendations are directly linked to the capabilities the exercise was intended to assess.

3.1. SMART Guidelines for Developing Exercise Objectives

Exercise objectives should follow the SMART principles -as defined by the Department of Homeland Security (DHS, 2020)- to ensure that they are clear, measurable, and suitable for evaluation.

SPECIFIC:

Objectives should clearly define who will perform what activities, when and where they will be performed, and why they are important. They should state precisely what is expected to be achieved within the exercise.

MEASURABLE:

Objectives should include quantitative or qualitative measures that allow performance to be evaluated objectively. Whenever possible, they should focus on observable actions, decisions, and outcomes.

ACHIEVABLE:

Objectives should be realistic and attainable within the scope of the exercise, considering the level of play, available resources, and the degree of control that participants have over exercise activities.

RELEVANT:

Objectives should directly support the organization's mission, preparedness goals, and strategic priorities. Each objective should contribute meaningfully to the capabilities the organization intends to develop or validate.

TIME-BOUND:

Objectives should include a clearly defined and realistic timeframe for achievement within the exercise, enabling evaluators to determine whether expected actions were completed within the required period.

04.

The Importance of Exercise Design and Planning

Effective exercise planning and design build upon the exercise objectives established during the planning process. Once those objectives have been defined, the exercise design team can develop a realistic scenario, establish assessment criteria, assign evaluators, and prepare the documentation required to conduct and evaluate the exercise. This chapter describes the key elements of that design process.

A well-designed exercise establishes the scope, objectives, performance expectations, and evaluation methodology before the exercise begins. It provides response personnel with the opportunity to practice emergency response activities in a realistic yet controlled environment, while enabling organizations to objectively assess the effectiveness of their emergency response programs and identify opportunities for continuous improvement.

Exercise planning should be supported by key stakeholders and integrated into the organization's overall preparedness program. The planning process should ensure that the exercise is realistic, appropriately challenging, and aligned with the capabilities being evaluated.

Several elements contribute to an effective exercise design and provide the foundation for an objective evaluation.

4.1. Define Clear and Measurable Objectives

The first step in designing an effective exercise is to establish clear and measurable objectives. These objectives define the purpose of the exercise, guide the development of the scenario, and establish the basis for evaluating performance and identifying opportunities for improvement.

Exercise objectives should reflect the organization's training and capability development needs while remaining aligned with the overall goals of its emergency preparedness and response program. Well-defined objectives also ensure that the exercise focuses on the capabilities and functions that the organization intends to validate.

According to Ipieca (2016a), exercise objectives typically address regulatory requirements, organizational communications, planning processes, and operational capabilities. The guidance further notes that:

"Two or three primary objectives are better than a long list of secondary objectives and will enable a specific scenario to be developed that gives realism to the exercise, stretches the participants and adds to their knowledge and ability."

Additional examples of exercise objectives are provided in API (2014).

Exercise objectives should be developed in accordance with the SMART principles described in Chapter 3.1. Applying these principles provides a sound foundation for exercise design and evaluation.

Because exercise objectives define the capabilities to be demonstrated and evaluated, they also establish the framework for selecting the appropriate Assessment Criteria within the MEDIR© tool. Clearly defined objectives enable evaluators to assess exercise performance consistently, interpret results objectively, and develop recommendations that support the continuous improvement of organizational preparedness and response capability.

Once the exercise objectives have been established, the next step is to develop a realistic scenario that enables participants to demonstrate the capabilities identified by those objectives.

4.2. Develop a Realistic Scenario

The exercise scenario should be realistic, technically credible, and sufficiently challenging to require participants to apply their knowledge, skills, and decision-making processes.

Whenever possible, scenarios should be based on organizational risk assessments and should include a sequence of events that evaluates the response organization's ability to manage the emergency effectively.

For complex exercises, the planning team should include representatives from multiple disciplines to ensure that the scenario adequately reflects operational, environmental, regulatory, safety, and stakeholder considerations.

In addition to the scenarios traditionally used within the oil and gas industry, organizations are encouraged to incorporate emerging risks into exercise design. These may include:

- process safety incidents resulting in large-scale emergencies, including cascading (domino-effect) events;
- climate change impacts, such as reduced water availability, damage to coastal infrastructure, extreme rainfall affecting pipeline integrity, severe weather disrupting logistics, environmental damage, or restricted access to facilities;
- digital transformation, including industrial cybersecurity incidents; and
- technological developments that may influence industrial or process safety.

Organizations may also consider scenarios involving remote or virtual incident management, travel restrictions, or public health emergencies requiring modified response arrangements (Ipieca, 2016a).

4.3. Select Qualified Evaluators

Evaluators play a critical role in ensuring that exercise performance is assessed objectively and consistently.

Evaluators should possess appropriate experience in emergency response and, where applicable, expertise in the operational, environmental, regulatory, or multidisciplinary aspects of the exercise scenario.

During the exercise, evaluators are responsible for observing participant performance, documenting observations, and providing objective feedback.

To preserve the integrity of the evaluation process, evaluators shall remain independent of exercise play and shall not participate in response activities.

4.4. Establish Assessment Criteria – Use the MEDIR© Tool

Assessment Criteria should be developed before the exercise to measure the effectiveness of the actions, processes, and procedures being evaluated.

These Criteria should be directly linked to the exercise objectives, the selected scenario, and the emergency response plan being tested.

Whenever possible, Assessment Criteria should be objective, measurable, and clearly defined to promote consistent evaluations among different evaluators.

The MEDIR© tool was developed by Arpel -in collaboration with Ipieca- to provide industry and other stakeholders with a practical, flexible, and user-friendly methodology for evaluating emergency response exercises and drills.

The tool supports the assessment of all-hazards emergency exercises by evaluating response performance from the perspectives of actions, processes, and procedures, thereby supporting organizations in their continuous improvement efforts.

When an exercise is sufficiently complex and of adequate duration to allow observation of leadership behaviors, the Response Management Category also incorporates qualitative Criteria based on ICS Performance Dimensions, specifically:

- Direction and Decision-Making;
- Communication and Coordination; and
- Situational Awareness.

These Criteria enable organizations to evaluate not only procedural compliance, but also key leadership competencies demonstrated by Command and General Staff personnel.

4.5. Ensure Participant Competency

Training and exercises should form part of a continuous preparedness cycle, with each activity reinforcing the other.

Participants should possess the knowledge, skills, and experience necessary to perform their assigned roles during the exercise.

Where appropriate, organizations should provide exercise-specific preparation, including briefings, seminars, coaching sessions, or orientation meetings, to ensure that participants clearly understand the objectives, assumptions, scope, and expected level of play.

Organizations are also encouraged to incorporate lessons learned from previous exercises and actual emergencies into future exercise planning and training programs.

4.6. Integrate Evaluation into Exercise Control

The evaluation function should be incorporated into the overall exercise design from the outset.

For large or complex exercises, the evaluation team should operate under the coordination of a Lead Evaluator or Evaluation Coordinator.

Before the exercise, evaluators should receive guidance regarding:

- the Categories/Subcategories/Criteria assigned to them;
- their interaction with Exercise Control;
- the scope of the evaluation;
- exercise assumptions and artificialities; and
- documentation requirements.

When multiple evaluators are used, Assessment Categories/Subcategories/Criteria should be allocated according to each evaluator's area of expertise.

4.7. Maintain Comprehensive Documentation

Documentation generated before, during, and after the exercise provides the evidence supporting the evaluation process and should be retained for future reference.

This documentation may include:

- exercise planning documents;
- meeting records;
- participant products;
- electronic records;
- photographs;
- maps;
- status boards; and
- other materials used to document incident management activities.

4.8. Review, Debrief, and Continuous Improvement

Exercise evaluation does not conclude when the exercise ends.
A structured review process is essential to maximize organizational learning and ensure that observations are translated into measurable improvements.
This process should include:

COMPLETE DOCUMENTATION:

The exercise and its evaluation should be fully documented. An After-Action Report should summarize the exercise scope, objectives, methodology, participants, scenario, evaluation results, observations, recommendations, and supporting documentation.

COMPREHENSIVE DEBRIEFING:

A structured debriefing should be conducted immediately after the exercise. Exercise objectives should be reviewed, and participants, evaluators, and functional representatives should be given the opportunity to discuss strengths, observations, and opportunities for improvement. Organizations may also use participant self-assessment questionnaires to complement evaluator observations.

CORRECTIVE ACTIONS:

Corrective actions should be developed to address deficiencies identified during the exercise. These actions may include:

- revisions to emergency response plans;
- additional training;
- procedural improvements;
- acquisition of equipment; or
- other organizational improvements.

Where appropriate, the organization should communicate the exercise results and the corresponding improvement plan to relevant stakeholders.

SUMMARY

Effective exercise planning and design are essential for obtaining meaningful and objective evaluations of emergency response capability.

By establishing clear objectives, developing realistic scenarios, selecting qualified evaluators, defining objective Assessment Criteria such as those defined in the MEDIR© tool, ensuring participant competency, integrating evaluation into exercise control, maintaining comprehensive documentation, and implementing corrective actions, organizations can continuously improve their preparedness and strengthen their capability to respond effectively to oil spills and other emergencies.

05.

Glossary of terms used in the Arpel MEDIR© tool

This chapter defines the principal terms used throughout the MEDIR© tool and this Manual. Consistent use of these terms promotes a common understanding of the evaluation methodology and supports the objective interpretation of exercise results.

Category

A **Category** is a broad functional area used to organize the evaluation of an exercise or drill.

The MEDIR© tool groups the assessment Criteria into the following four Categories:

1. Notifications
2. Initial Response Actions
3. Response Management
4. Response Operations (deployment exercises only)

These Categories represent the principal components of emergency response performance evaluated by the MEDIR© methodology.

Subcategory

A **Subcategory** is a subdivision within a Category that groups related functions or activities for evaluation.

Because the Response Management and Response Operations Categories encompass numerous interconnected processes and procedures, they are further divided into Subcategories to facilitate a more structured and efficient assessment.

Each Subcategory contains a set of related Assessment Criteria that evaluate a specific functional area.

Criterion

A **Criterion** is the fundamental unit of assessment within the MEDIR© tool.

Each Criterion defines a specific action, process, procedure, or capability to be evaluated during an exercise or drill. Collectively, Criteria provide a structured and consistent methodology for assessing response performance and identifying opportunities for improvement.

The MEDIR© tool includes two types of Criteria:

- **Quantitative Criteria,** which are presented as statements and contribute to the numerical evaluation.
- **Qualitative Criteria,** which relate to **ICS Performance Dimensions.** These are presented as questions, shaded in dark blue, and provide qualitative observations without affecting the quantitative score.

Critical Criterion

A **Critical Criterion** represents an action, decision, or communication that is essential to an effective emergency response.

Failure to perform a Critical Criterion, or performing it incorrectly or too late, could initiate, escalate, or fail to prevent or mitigate a high-consequence process safety event, including a major release, fire, explosion, or another event with the potential to cause serious harm to people, the environment, or assets.

The definition adopted for this Manual has been developed specifically for the MEDIR© methodology and is derived from recognized principles of human factors, safety-critical task analysis, standards of the Occupational Safety and Health Administration (2026) and WorkSafe (2025). It reflects the widely accepted concept that failures in safety-critical tasks or communications may contribute directly to major accident events.

Critical Criteria were identified by experienced emergency response professionals and are shaded in purple throughout the MEDIR© tool.

The complete list of Critical Criteria, together with the rationale for their designation, is provided in Appendix B.

Weighting factors

A Weighting Factor is the percentage assigned to each Category to reflect its relative contribution to the overall exercise evaluation.

Although all four Categories are essential to effective emergency response, experience has shown that they do not contribute equally to overall exercise performance. Consequently, **the MEDIR© tool applies weighting factors to the quantitative results of each Category** when calculating the Total Weighted Score.

The weighting factors incorporated into the MEDIR© tool are those of Table 1.

Table 1. Weighting factors of the categories of the MEDIR© tool

1. 20% for the Notifications category,
2. 25% for the Initial Response Actions category,
3. 30% for the Response Management category, and
4. 25% for the Response Operations category

NOTE: If Categories 1, 2, and/or 4 are designated Not Applicable (NA), their weighting is automatically redistributed equally among the remaining evaluated Categories.

Assessment Indicator

An Assessment Indicator is the rating assigned by the evaluator to each Criterion.

The MEDIR© tool provides three Assessment Indicators together with a **Not Applicable (NA)** option:

- For **Quantitative Criteria**, the definitions and corresponding numerical values are provided in **Table 2.**
- For **Qualitative Criteria** related to **ICS Performance Dimensions,** the corresponding behavioral anchors are provided in **Table 3.**

Assessment Indicators provide the basis for consistent and objective evaluation across different exercises and evaluators.

ICS Performance Dimensions

ICS Performance Dimensions are qualitative measures used to evaluate how effectively the response management functions are performed during an exercise.

Rather than measuring compliance with specific procedures, these dimensions focus on leadership behaviors and management competencies demonstrated while managing the response.

Within the MEDIR© tool, the **ICS Performance Dimensions** are applied **exclusively** to **Category 3 – Response Management.**

Their evaluation is optional and may be conducted when the exercise is sufficiently complex and of adequate duration to allow meaningful observation of leadership performance.

Criteria associated with ICS Performance Dimensions are shaded in dark blue throughout the MEDIR© tool. The results provide qualitative context to evaluator observations and support post-exercise learning. They do **not** contribute to the quantitative scoring methodology.

The MEDIR© tool evaluates the following Performance Dimensions:

- **Direction and Decision-Making.** The ability to establish priorities, make sound decisions under dynamic and uncertain conditions, and communicate clear direction throughout the response organization.
- **Communication and Coordination.** The ability to maintain clear, timely, and consistent information exchange among response functions, Incident Management Team members, and external stakeholders.
- **Situational Awareness.** The ability to gather, interpret, and apply relevant information to maintain an accurate understanding of the evolving incident and support effective operational decision-making.

06.

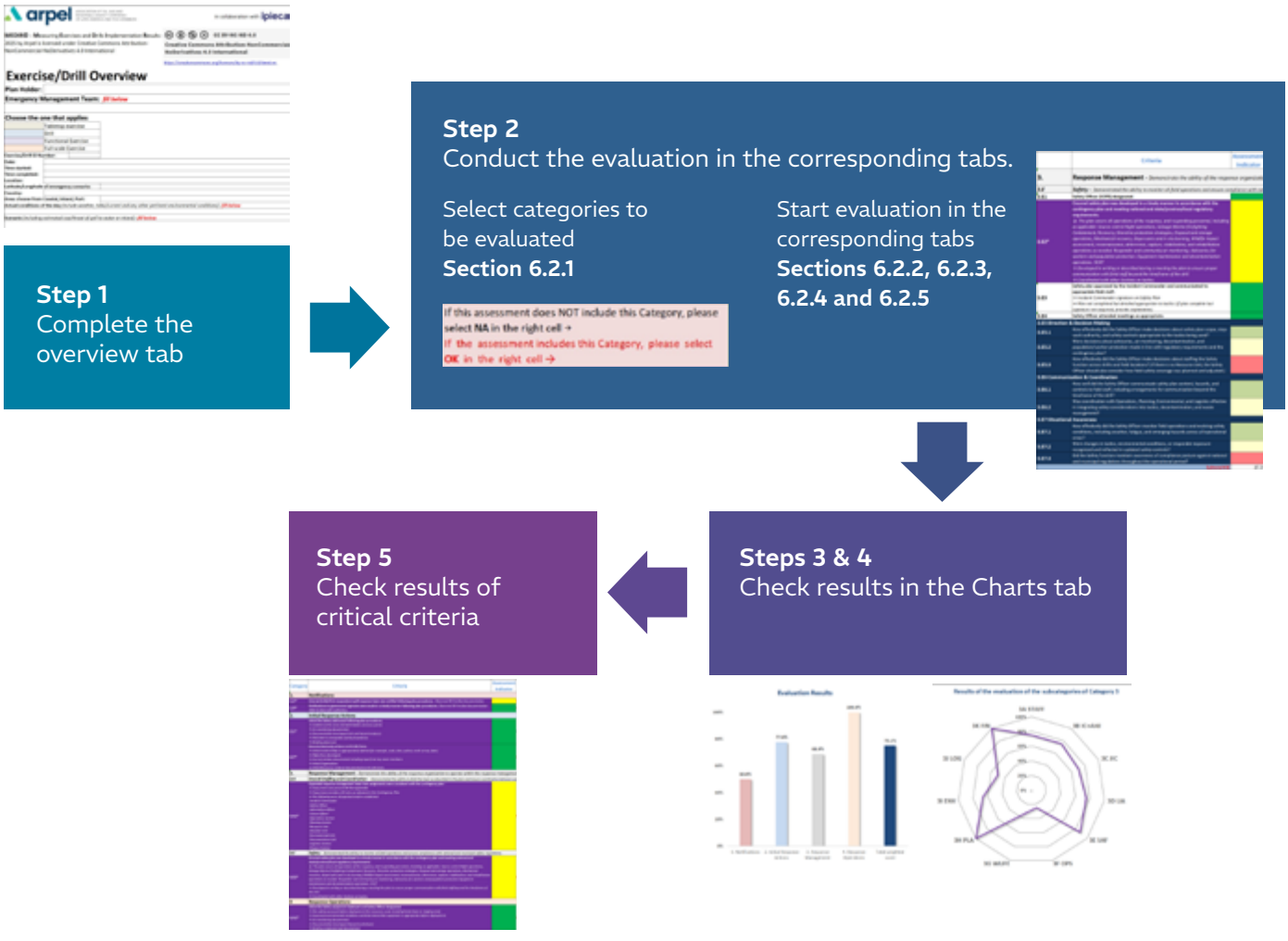
Evaluation using the MEDIR© Tool

This chapter describes the evaluation process used with the MEDIR© tool and provides guidance for conducting consistent and objective evaluations of emergency response exercises and drills.

It explains how to complete the evaluation, assign Assessment Indicators, document observations and recommendations, and interpret both the individual Category results and the overall exercise score. The chapter also describes the optional qualitative assessment of Incident Command System (ICS) Performance Dimensions when the exercise design allows observation of leadership behaviors.

Following the methodology presented in this chapter promotes consistency among evaluators, facilitates meaningful exercise debriefings, and supports the continuous improvement of emergency preparedness and response capabilities.

Figure 1. Evaluation Process Using the MEDIR© Tool



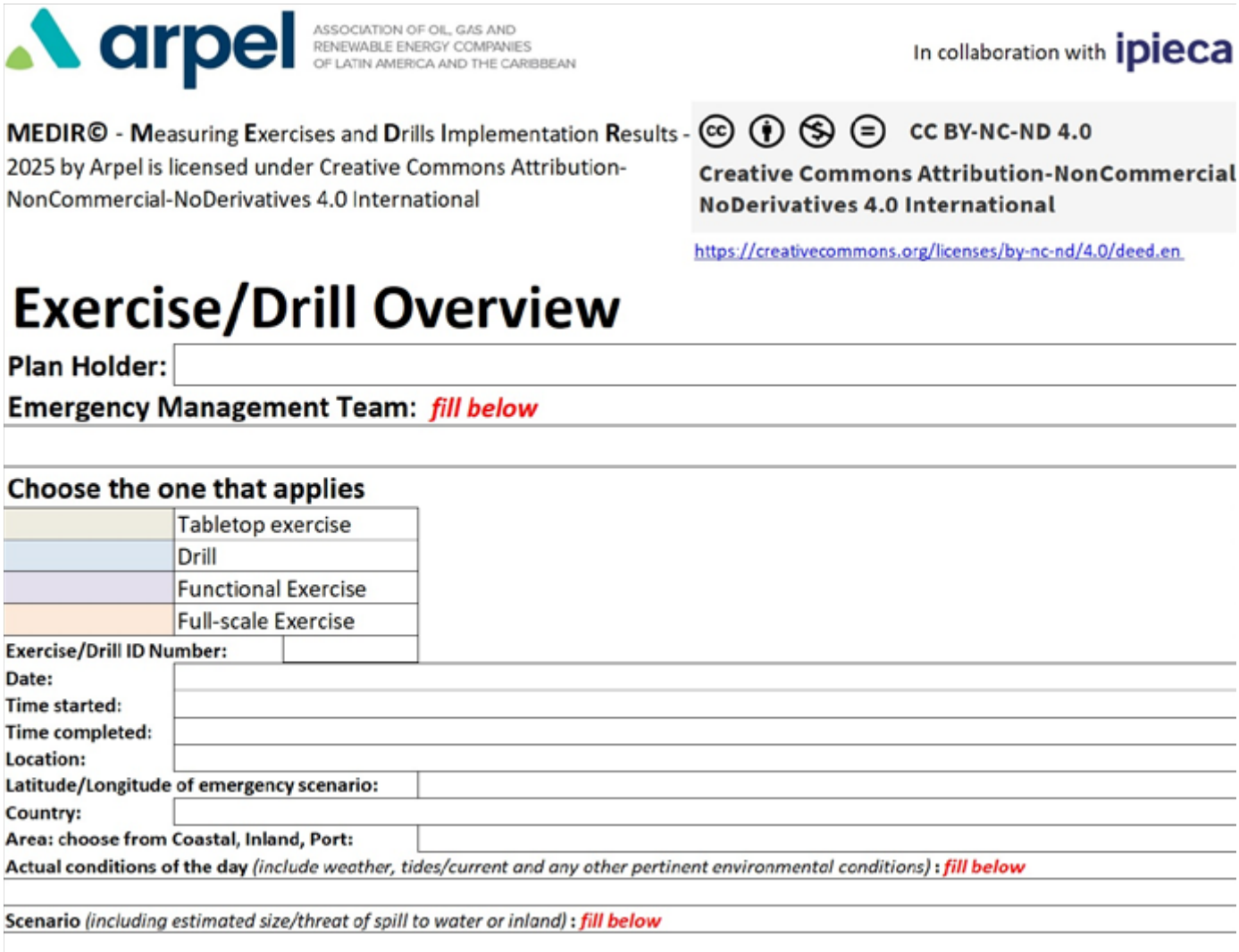
6.1. **Step 1** | Complete the General Information in the Overview tab.

The Overview tab contains general information describing the exercise or drill being evaluated.

Before beginning the assessment, the organization shall complete all applicable information, including the exercise or drill type (see the *Glossary of Acronyms and Terms*), date, location, scenario description, emergency management team, environmental conditions, and any other information requested in the Overview tab.

Completing this information provides the context for the evaluation and facilitates subsequent analysis and comparison of exercise results.

Figure 2. Overview Tab of the MEDIR© Tool



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Exercise/Drill Overview

Plan Holder:

Emergency Management Team: *fill below*

Choose the one that applies

	Tabletop exercise
	Drill
	Functional Exercise
	Full-scale Exercise

Exercise/Drill ID Number:

Date:

Time started:

Time completed:

Location:

Latitude/Longitude of emergency scenario:

Country:

Area: choose from Coastal, Inland, Port:

Actual conditions of the day *(include weather, tides/current and any other pertinent environmental conditions)* **:** *fill below*

Scenario *(including estimated size/threat of spill to water or inland)* **:** *fill below*

6.2. **Step 2** | Conduct the Evaluation

The MEDIR© tool evaluates emergency response capability through four Categories.

Depending on the objectives and scope of the exercise or drill, not all Categories may be applicable.

The evaluation process consists of selecting the appropriate Assessment Indicator for each Criterion, documenting the rationale for the assigned score, and recording recommendations for improvement.

6.2.1 Categories Evaluated

The evaluation is organized into the following Categories:

1. Notifications
2. Initial Response Actions
3. Response Management
4. Response operations (deployment exercises only)

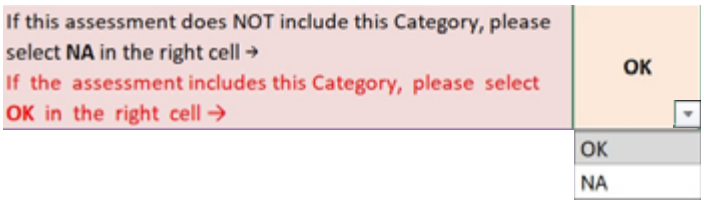
Categories 1, 2 and 4 may not apply to every exercise.

Whenever one of these Categories is outside the scope of the exercise, the evaluator shall select NA (Not Applicable) in the corresponding cell at the beginning of the evaluation tab (Figure 3).

If the Category is included in the evaluation, the evaluator shall select OK.

The MEDIR© tool automatically redistributes the weighting factors among the evaluated Categories to ensure that the overall score is calculated correctly.

Figure 3. Selecting (NA or OK at the Beginning of Categories 1, 2 and 4



If the assessment includes the Category, select OK in the corresponding cell.

For example, if the exercise does not include equipment deployment, Category 4 should be marked NA. The MEDIR© tool will automatically redistribute the weighting factors described in Table 1 among the remaining Categories, ensuring that the overall evaluation score is calculated correctly.

6.2.2 Evaluation Tabs

The MEDIR© tool contains separate evaluation tabs corresponding to the Categories included in the methodology. Evaluators shall complete only those tabs that are applicable to the objectives and scope of the exercise or drill.

Category 3 (Response Management) is divided into eleven functional Subcategories, each presented in a separate tab.

This arrangement enables different evaluators to assess different response functions simultaneously while reducing scrolling and improving usability during the evaluation.

Evaluation Tabs Description in the MEDIR© Tool
❖ **Cat.1** - Notifications
❖ **Cat. 2** – Initial Response Actions
❖ **Cat. 3** – Response Management
• **3A STAFF** - Overall Staffing and Coordination
• **3B IC+AHJ** - Incident Command and Authorities Having Jurisdiction
• **3C JIC** - Information Officer/Joint Information Center
• **3D LIA** - Liaison
• **3E SAF** - Safety
• **3F OPS** - Operations Section
• **3G WLIFE** - Wildlife Branch
• **3H PLA** - Planning Section
• **3I ENV** - Environmental Unit
• **3J LOG** - Logistics Section
• **3K FIN** - Finance Section
❖ **Cat. 4** – Response Operations

6.2.3 Criteria and Assessment Indicators

Each Category (and each Subcategory within Categories 3 and 4) contains a series of Criteria that are evaluated using predefined Assessment Indicators.

The evaluator selects the appropriate Assessment Indicator from the corresponding drop-down menu.

Special attention should be given to the following:

- **Criteria shaded in purple and identified with an asterisk (*) are Critical Criteria.** They deserve special attention. See Appendix B.
- **Criteria shaded in dark blue** correspond to ICS Performance Dimensions. These are optional, qualitative observations and do not contribute to the quantitative score.

6.2.3.1 Quantitative Assessment Indicators

To obtain a quantitative assessment, the evaluator assigns an Assessment Indicator (0, 1, 2, or NA) to each Criterion by following the definitions provided in Table 2.

The MEDIR© tool automatically converts the selected Assessment Indicator into the corresponding color-coded cell described in Table 2.

Table 2 . Assessment Indicators for Quantitative Criteria - Definitions with the corresponding Quantitative Value in the MEDIR© tool

Met expectations	Partially achieved	Did not demonstrate	Not Applicable
2 points The evaluator found sufficient information, documentation or other objective evidence demonstrating that the criterion met or exceeded the stated requirements. A score of 2 indicates that the Criterion was successfully demonstrated, although opportunities for further improvement may still exist.	**1 point** The evaluator found information, documentation, or other objective evidence indicating that some aspects of the Criterion were incomplete or were not fully addressed, resulting in a negative impact on exercise performance. This rating may indicate deficiencies in pre-planning or identify processes and procedures within the emergency response plan that require improvement.	**0 points** The evaluator found insufficient information, inadequate evidence, or no confirmation that the Criterion met the stated requirements. This rating may indicate the need to review elements of the organization's emergency response program. If the Criterion is designated as a Critical Criterion, a score of 0 will adversely affect the overall exercise result and indicate that corrective actions, including additional training, procedural revisions, or program improvements, should be implemented.	**NA** In certain situations, the evaluator may determine that a Criterion is Not Applicable (NA). For example, a Criterion may fall outside the scope of the exercise or drill, or it may apply only to a full-scale deployment exercise. Criteria marked NA are excluded from the quantitative calculations and do not affect the overall assessment.

It is important to recognize that the MEDIR© tool contains a comprehensive set of Criteria intended to evaluate all aspects of emergency response capability.

Many exercises evaluate only a portion of an emergency response plan. Consequently, several Criteria may legitimately be assessed as Not Applicable (NA). These Criteria are automatically excluded from the calculation of the overall quantitative assessment, ensuring that the Total Weighted Score accurately reflects only those elements included within the scope of the exercise or drill.

6.2.3.2 Qualitative Assessment Indicators (ICS Performance Dimensions)

When an exercise is sufficiently complex and of adequate duration to allow observation of leadership behaviors, evaluators may also assess the Criteria **shaded in dark blue with white lettering,** which correspond to **ICS Performance Dimensions included within Category 3 (Response Management).**

This assessment is **optional** and qualitative. It does not affect the overall quantitative result of the evaluation. Instead, it provides valuable information regarding functional competencies and leadership performance, complementing the evaluator's written comments and supporting post-exercise learning.

The Criteria related to ICS Performance Dimensions are intentionally written as questions. This approach emphasizes observation of performance rather than simple compliance.

The following principles should be considered during their evaluation:

a. The question format is intended to encourage qualitative observations that complement the quantitative assessment.

b. The evaluation focuses on the performance of the function (for example, the Public Information function or the Liaison function), rather than on the individual performing that role.

Table 3 provides behavioral anchors for each Assessment Indicator associated with the ICS Performance Dimensions. These anchors are intended to:

- reduce evaluator subjectivity;
- promote consistent scoring among evaluators;
- encourage the documentation of observable behaviors;
- distinguish behaviors that should be reinforced from those requiring improvement; and
- support objective, defensible evaluations.

The evaluator assigns an Assessment Indicator using the guidance provided in Table 3.

The MEDIR© tool automatically converts the selected Assessment Indicator into the corresponding light-colored cell shown in Table 3.

As noted previously, the results of these assessments are qualitative only and do not affect the quantitative scoring methodology of the MEDIR© tool.

Table 3. Behavioral Anchors for Assessment Indicators Related to ICS Performance Dimensions

Assessment Indicator	Behavioral anchor	In the Comments/Recommendations cell of the MEDIR© tool, the evaluator should …
Met expectations (2)	The criterion was fully demonstrated without prompting or external assistance.	… describe a specific decision or action illustrating confident, independent performance that justifies the assigned rating.
Partially achieved (1)	The criterion was demonstrated but required prompting, coaching, clarification or corrective guidance.	… describe the specific performance gap or intervention that explains why expectations were only partially achieved.
Did not demonstrate (0)	The criterion was attempted but the responder appeared unfamiliar with the required action, process or procedure	… describe the specific observed deficiency.
Not applicable (NA)	Not conducted	… explain further (see chapter 6.2.4)

6.2.4 Comments and Recommendations

For every Assessment Indicator, the evaluator shall complete the adjacent Comments/ Recommendations field.

The comments should explain the rationale for the selected Assessment Indicator and, where appropriate, provide recommendations for improvement. These observations are essential for identifying corrective actions, documenting lessons learned, and supporting continuous improvement of future exercises and drills.

- **For quantitative criteria**, each Comments/ Recommendations field initially displays the default instruction: **"Explain the rationale for selecting the specific value and write recommendations for improvement".** This text appears in bold red. Once the evaluator enters comments, the text automatically changes to standard black font.
- **For criteria associated to ICS performance dimensions** the default instruction is: **"Describe a decision or action that illustrates this rating".** This text also appears in bold red and changes to standard black font after comments have been entered.

These default prompts provide simple visual confirmation that each Criterion has been evaluated and appropriately documented.

The Comments/Recommendations field should be completed for every evaluated Criterion, regardless of the Assessment Indicator assigned. In particular:

- **0 (Did Not Demonstrate) or 1 (Partially Achieved):** Recommendations are particularly valuable for identifying corrective actions and opportunities for improvement in future exercises or drills.
- **2 (Met Expectations):** Comments provide evidence supporting the assigned rating and may be confirmed or refined during the exercise debriefing.
- **NA (Not Applicable):** The evaluator should clearly explain why the Criterion was not assessed, following the guidance provided in Tables 2 and 3. In case the evaluator selects this option, the Comments/Recommendations field includes a drop-down menu with the options: "Out of scope", "Time constraints" and "Other". When "Other" is selected, the evaluator should provide an explanation.

Following the steps indicated above ensures that the rationale for each assessment is documented and provides useful information for the debriefing, identification of improvement opportunities, and subsequent follow-up actions.

Figure 4 provides an example from the evaluation of the Initial Response Actions Category, illustrating:

- selection of OK to indicate that the Category is included in the evaluation;
- identification of Criterion 2.1 as a Critical Criterion (shaded in purple with an asterisk); and
- Assessment Indicators of 2, 1, 0, 1, and NA for Criteria 2.1 through 2.5, respectively (see color codes in Table 2 above).

Figure 4. Example of an Evaluation (excerpt from Initial Response Actions Category).

	Criteria	Assessment Indicator	Comments/Recommendations
2.	**Initial Response Actions**		
	If this assessment does NOT include this Category, please select **NA** in the right cell → If the assessment includes this Category, please select **OK** in the right cell →	OK	
2.1*	**Initial Site Safety addressed following plan procedures.** → *Isolation of the area and delimitation of access points* → *Air monitoring documented.* → *Documentation developed (risk and hazard analysis).* → *Potential to extrapolate facility boundaries* → *Briefing observed.*		Safety personnel had the equipment ready and operational. Data included in the hazrd worksheet
2.2	**The Alarm, Evacuation and Response Time were according to the plan** → *Alarm was activated with an audible sound level* → *Employees/contractors/visitors were evacuated to the meeting point* → *There was a staff count* → *The meeting point was identified, and everyone was aware of it* → *The evacuation time was within the expected timeframe*		There was some confusion at the meeting point and counting took too much time. It is recommended to include more visible signs
2.3	**Performed initial assessment of emergency status.** → *Source status identified* → *Spill volume calculated (for example, using mass balance).* → *Environmental conditions assessed (i.e. weather, wind, rain, tides).* → *Analyzed where product was going (using trajectory, river speed).* → *Deployed or discussed use of limited visibility tracking devices as identified in the plan.* → *Product type identified, or provided in scenario and SDS acquired.* → *Spill trajectory forecast estimated*		The transfer was done during the night and lack of communication between vessels prevented to realice the exact moment of the spill
2.4	**The call roles were duly fulfilled** → *The manager on duty called to the company's emergency number to activate resources* → *There was a follow-up/management of the previous call* → *Deputy Manager on duty was identified* → *The role activation time was within the plan timeframe*		The role activation was within the plan, but the emergency number was not updated and -thus- the follow up call was not made. It is recommended to increase periodicity of data.
2.5	**Population Protection: Demonstrated the ability to quickly identify health hazards associated with the discharged product and the population at risk.** *Acquired knowledge of risks. Notified the public of possible health hazards. OR Not applicable.*		Out of scope. The scenario of the exercise was a spill during an oil transfer from an FPSO 150 km away from the shore

Figure 5 presents an example from the Safety Subcategory of Category 3 (Response Management), illustrating the evaluation of Criteria related to ICS Performance Dimensions (only).

Following the color codes in Table 3 above, the example shows that:

- Criteria 3.E5.2, 3.E6.1, and 3.E7.3 were not evaluated (NA) and are displayed in light gray.
- Criteria 3.E6.2 and 3.E7.2 received a score of 1 (Partially Achieved) and are displayed in light yellow.
- Criteria 3.E5.1, 3.E5.3 and 3.E7.1 received a score of 2 (Met Expectations) and are displayed in light green.

It should be noted that the subtotal indicated below (83.3%) derives from the evaluation of quantitative criteria 3.E1 through 3.E4 -not shown in the table below- and does NOT correspond to the evaluation of the Criteria related to ICS Performance Dimensions which are qualitative.

Figure 5. Example of an Evaluation (excerpt from Safety Subcategory of the Response Management Category).

	Criteria	Assessment Indicator	Comments/Recommendations
3.	**Response Management** - *Demonstrate the ability of the response organization to operate within the response management system identified in their respective plans.*		
3.E	***Safety*** - *Demonstrated the ability to monitor all field operations and ensure compliance with national and municipal safety regulations.*		
3.E5 Direction & Decision Making			
3.E5.1	How effectively did the Safety Officer make decisions about safety plan scope, stop-work authority, and safety controls appropriate to the tactics being used?		Safety officer was very effective in distributing work among the assistance, safety officers and others of the group. Two assistance were embedded in the Operation Section; one for future planning andone for current operations
3.E5.2	Were decisions about advisories, air monitoring, decontamination, and population/worker protection made in line with regulatory requirements and the contingency plan?		Out of scope
3.E5.3	How effectively did the Safety Officer make decisions about staffing the Safety function across shifts and field locations? (If there is no Resource Unit, the Safety Officer should also consider how field safety coverage was planned and adjusted.)		The Safet Officer embedded with the Operations Section, leaned on subject matter experts, and developed mitigation for high risk areas
3.E6 Communication & Coordination			
3.E6.1	How well did the Safety Officer communicate safety plan content, hazards, and controls to field staff, including arrangements for communication beyond the timeframe of the drill?		Time constraints
3.E6.2	Was coordination with Operations, Planning, Environmental, and Logistics effective in integrating safety considerations into tactics, decontamination, and waste management?		There was limited interaction between the SOFR and Agency Representatives. LOFR obtained data through SITU
3.E7 Situational Awareness			
3.E7.1	How effectively did the Safety Officer monitor field operations and evolving safety conditions, including weather, fatigue, and emerging hazards across all operational areas?		The Safety Officer periodically monitored these aspects and in collaboration with other sections
3.E7.2	Were changes in tactics, environmental conditions, or responder exposure recognized and reflected in updated safety controls?		There were some delays in the implementation of tactics as the emergency scaled up
3.E7.3	Did the Safety function maintain awareness of compliance posture against national and municipal regulations throughout the operational period?		Out of scope
	Subtotal #3E	83.3%	

6.2.5 Evaluation of the Deployment Tab

If the exercise includes equipment deployment, the evaluator should complete both the Category 4 and Deployment tabs. If equipment deployment is not included in the exercise, this step should be skipped by selecting NA.

The Deployment tab is intended to document the equipment sourced during the exercise and to verify the availability and depth of response resources on the day of the exercise.

The equipment to be sourced, together with the quantity of resources required, should be defined during exercise planning.

Because the objective is to verify response capability rather than operational necessity, multiple assets may be sourced even if they are not all required to arrive at the staging area or to be deployed operationally. This approach provides a more accurate assessment of the availability of both dedicated and non-dedicated response resources under actual conditions.

6.3. **Step 3** | Review the Individual Evaluation Results

The MEDIR© tool automatically displays the results of the evaluation according to the Categories assessed.

The results include both numerical scores and the evaluator's observations and recommendations, providing the information required for the exercise debriefing and continuous improvement process.

6.3.1 Results for Categories 1, 2 and 4

Upon completion of the evaluation of Categories 1, 2, and 4, the MEDIR© tool automatically displays the following information in the corresponding evaluation tabs:

- **Subtotal:** A Subtotal expressed as the percentage of the maximum possible score achieved for each evaluated Category, calculated from the selected Assessment Indicators. In addition to the numerical score, the evaluator can review all comments and recommendations associated with each Criterion. These observations should be discussed during the exercise debriefing.
- **Weighted Subtotal:** A Weighted Subtotal for each evaluated Category, calculated by applying the weighting factors presented in Table 1. Please note that, as indicated earlier, if one or more of Categories 1, 2, or 4 are designated as Not Applicable (NA), their weighting is automatically redistributed equally among the Categories included in the evaluation.

Figure 6. Example Illustrating the Subtotal and Weighted Subtotal for Category 1

	Criteria	Assessment Indicator
1.	**Notifications**	
	If this assessment does NOT include this Category, please select **NA** in the right cell → If the assessment includes this Category, please select OK in the right cell →	OK
1.1*	Internal (initial-first responders) emergency response team was notified following plan procedures. → *Initial information validated in situ.* → *Notification form delivered/received from the field.* → *Notification form is complete/reliable.* *Observed OR Verified documentation.*	
1.2	Entire spill response organization (including away team members and other contractors intended to assist with spill management, Primary Response Contractor, Spill Management Team, & Wildlife Response Service Provider), was notified in a timely manner, following plan procedures - *Observed OR Verified documentation.*	
1.3*	Notifications to government agencies were made in a timely manner following plan procedures. *Observed OR Verified documentation AND Verified with authorities*	
1.4	The main management structure of the organization was informed in a timely manner	
	Subtotal #1	50.0%
	Weighted Subtotal #1	10.0%

Figure 6 illustrates the following features of the MEDIR© tool:

- The first row displays OK in the third column, indicating that Category 1 (Notifications) is included within the scope of the evaluation.
- Criteria 1.1 and 1.3 are shaded in purple, identifying them as Critical Criteria.
- The Assessment Indicator scores for the four Criteria are 1, 1, 2, and 0, respectively (see color codes in Table 2 above), resulting in a total score of 4.
- The maximum possible score for this Category is 8 (2 points for each of the four Criteria). Consequently, the Subtotal is 4 ÷ 8 = 0.50 (50%), as shown in the penultimate row.
- In this example, all four Categories are evaluated. Therefore, the weighting factor assigned to Category 1 is 20%, as specified in Table 1. The resulting Weighted Subtotal for this Category is therefore 10% (50%x20%), as shown in the final row.

6.3.2 Results of Category 3 (Response Management)

Upon completion of the evaluation of the eleven Subcategories comprising Category 3 (Response Management), the MEDIR© tool displays the following information within each Subcategory tab:

- **Subtotal:** A Subtotal expressed as the percentage of the maximum possible score achieved for that Subcategory, calculated exclusively from the quantitative Criteria. In addition to the numerical score, the evaluator can review all comments and recommendations associated with each Criterion for discussion during the exercise debriefing.
- **ICS Performance Dimension Results:** The Assessment Indicator scores and associated comments for the Criteria related to ICS Performance Dimensions are also displayed. Because these Criteria are qualitative, they do not contribute to the quantitative scoring structure of the MEDIR© tool.

Figure 7. Example Illustrating the Subtotal for Subcategory 3.D (Liaison) within Category 3 (Response Management)

	Criteria	Assessment Indicator
3.	**Response Management** - *Demonstrate the ability of the response management system identified in their respective plans.*	
3.D	***Liaison***	
3.D1	**Liaison Officer (LOFR) designated.** → *Individual designated by the Incident Commander.*	
3.D2	**Liaison function was established.** → *Coordinated with applicable sections, units, and command staff positions as applicable.* → *Identified Contact Lists for key local governmental authorities and community leaders.*	
3.D3	**Liaison provided timely information to key local governmental authorities and Community Leaders.**	
3.D4	**Developed a Liaison Plan.** → *Plan provided for continuing release of information to Liaison contacts.* → *Liaison used Contingency Plan.*	
3.D5	**Liaison Officer attended meetings as appropriate.**	
3.D6 Direction & Decision Making		
3.D6.1	How effectively did the Liaison Officer prioritize agency engagement decisions, including which authorities and community leaders to contact first and how to escalate engagement?	
3.D6.2	Were decisions about Liaison Plan content, contact list scope, and continuing release of information made in line with the emergency plan and incident objectives?	
3.D6.3	How effectively did the Liaison Officer make decisions about staffing the Liaison function across operational periods? (If there is no Resource Unit, the Liaison Officer should also consider how internal staffing was planned and adjusted.)	
3.D7 Communication & Coordination		
3.D7.1	How well did the Liaison Officer manage information exchange with key local governmental authorities, AHJ representatives, and community leaders throughout the operational period?	
3.D7.2	Was coordination with applicable Sections, Units, and Command Staff effective in ensuring stakeholder concerns were heard and fed into the response?	
3.D7.3	Did the Liaison function maintain timely and continuing release of information to Liaison contacts, in line with the Liaison Plan?	
3.D8 Situational Awareness		
3.D8.1	How effectively did the Liaison Officer read the political and community context, including emerging concerns from agencies, AHJs, and community leaders?	
3.D8.2	Were shifts in stakeholder posture, agency expectations, or community sentiment identified early and communicated to Command?	
3.D8.3	Did the Liaison function maintain awareness of jurisdictional dynamics, regulatory expectations, and interagency tensions that could affect the response?	
	Subtotal #3D	100.0%

Figure 7 demonstrates the following:

- There are no Criteria shaded in purple, indicating that this Subcategory contains no Critical Criteria (although Critical Criteria are present in other Subcategories of Category 3).
- Following color codes in Table 2 above, the Assessment Indicator scores for the five quantitative Criteria (3.D1 through 3.D5) are 2, 2, 2, 2 (all four are colored green), and NA (gray).
- Since Criterion 3.D5 is designated Not Applicable (NA), it is excluded from the calculation. The maximum possible score therefore is -therefore- 8 (2 per each of the four criteria evaluated), producing a Subtotal of 8 ÷ 8 = 1.00 (100%), as shown in the final row.
- The scores assigned to the nine Criteria related to ICS Performance Dimensions (shaded in dark blue) are presented separately and do not affect the quantitative result.
- Because weighting factors are applied only to the four principal Categories (see Table 1), no Weighted Subtotal is displayed within individual Subcategory tabs.

6.4. **Step 4** | Review the Overall Evaluation Results

The Charts tab provides a consolidated graphical summary of the evaluation.

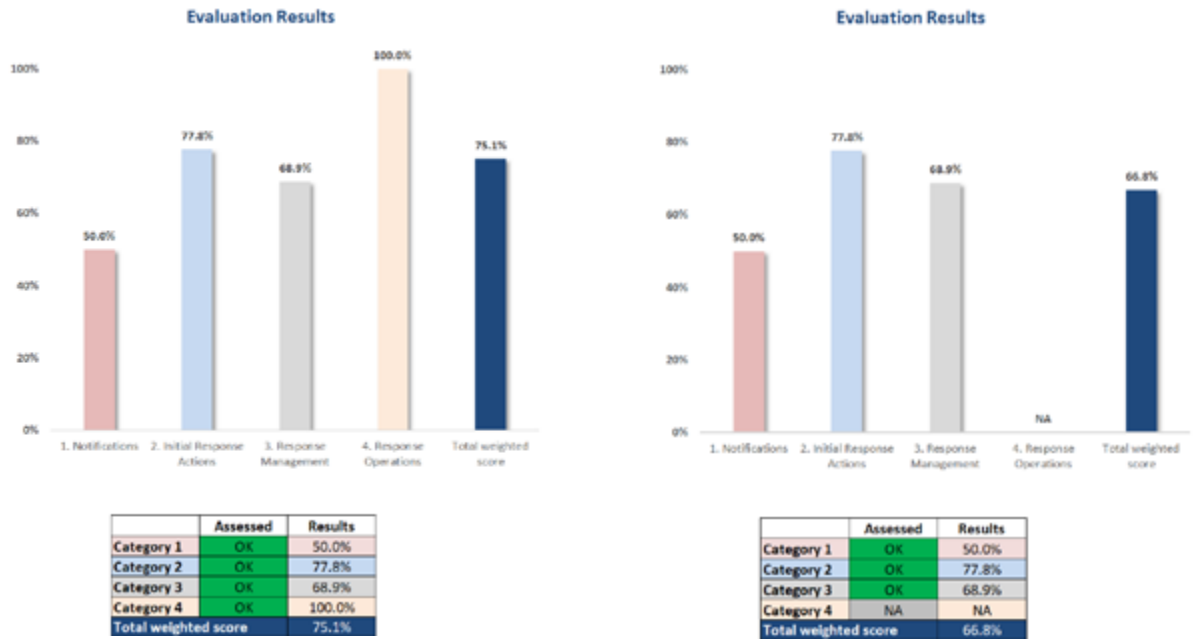
The charts allow evaluators to compare Category performance, interpret the overall exercise result, and identify strengths and opportunities for improvement.

6.4.1 Results per Category and Total Weighted Score

The Charts tab displays:

- the unweighted Subtotal achieved for each evaluated Category; and
- the Total Weighted Score, representing the overall quantitative result of the exercise after applying the weighting factors established in Table 1.

Figure 8. Example of evaluation results of exercises with and without deployment (using identical scores for the first three Categories)



	Assessed	Results
Category 1	OK	50.0%
Category 2	OK	77.8%
Category 3	OK	68.9%
Category 4	OK	100.0%
Total weighted score		75.1%

	Assessed	Results
Category 1	OK	50.0%
Category 2	OK	77.8%
Category 3	OK	68.9%
Category 4	NA	NA
Total weighted score		66.8%

Figure 8 compares the results of two exercises evaluated using identical scores for the first three Categories:

- Left: an exercise that includes the evaluation of Category 4 (Response Operations).
- Right: an exercise in which Category 4 is designated Not Applicable (NA) because no equipment deployment was included.

Figure 8 illustrates the following:

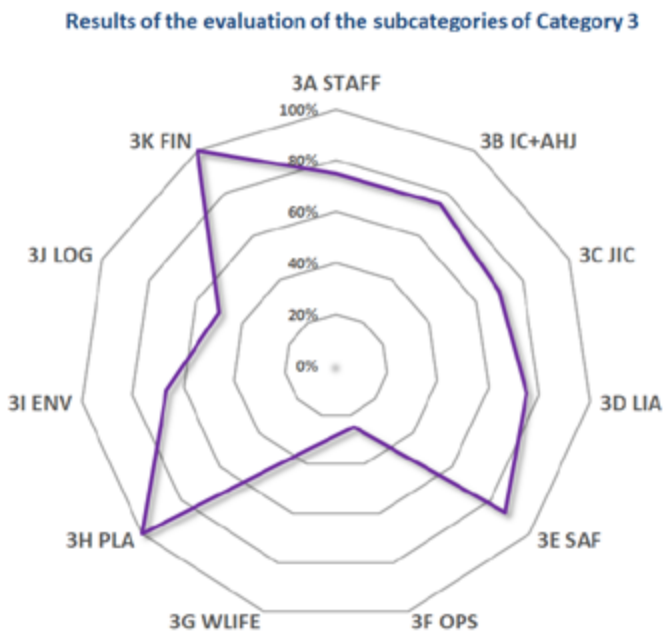
- In both charts, the individual Category scores are displayed as Subtotals, without weighting.
- In the exercise that includes equipment deployment (left chart), the Total Weighted Score is 75.1%, which incorporates the weighting factors defined in Table 1.
- In the exercise without equipment deployment (right chart), the weighting assigned to Category 4 in Table 1 was automatically redistributed among the remaining evaluated Categories, as described in Section 6.2.1.
- Considering the high score of Category 4 assessment compared to the scores of first three categories (see left chart), the Total Weighted Score in the right chart is considerably lower (66.8%).

6.4.2 Results of Subcategories of Category 3

The Charts tab also includes a radar (spider) chart displaying the Subtotal achieved for each of the eleven Subcategories within Category 3 (Response Management).

Unlike Categories 1, 2, and 4, which are each evaluated within a single tab, Category 3 is divided into eleven functional Subcategories. The radar chart provides a convenient visual comparison of performance across all response management functions.

Figure 9. Results of the eleven Subcategories of Category 3 displayed in the "Charts" tab



3A STAFF	Overall Staffing and Coordination
3B IC+AHJ	Incident Command and Authorities Having Jurisdiction
3C JIC	Information Officer/Joint Information Center
3D LIA	Liaison
3E SAF	Safety
3F OPS	Operations Section
3G WLIFE	Wildlife Branch
3H PLA	Planning Section
3I ENV	Environmental Unit
3J LOG	Logistics Section
3K FIN	Finance Section

The radar chart enables evaluators to:

- compare the relative performance of all Response Management functions;
- identify operational strengths and weaknesses across the Incident Management Team;
- support discussions during the exercise debriefing; and
- identify functional areas requiring additional training, planning, or procedural improvement.

6.5. **Step 5** | Check Results in Critical Tab

The Critical tab consolidates the results for all Critical Criteria identified throughout the evaluation.

Although every Criterion contributes to the overall assessment, Critical Criteria represent activities that are essential to effective emergency response performance and therefore require a separate review.

Accordingly, these Criteria should be reviewed separately from the overall assessment to ensure that appropriate corrective actions are identified and prioritized.

Critical Criteria receiving a score of Partially Achieved (1) or Did Not Demonstrate (0) indicate deficiencies that could contribute to, or fail to prevent, a high-consequence event.

The Critical tab enables evaluators to focus on these high-priority findings and, in particular, to review the associated comments and recommendations for improvement.

The Critical tab mirrors the results of the evaluation for Critical Criteria only, across all Categories and Subcategories included in the evaluation. The information displayed in this tab cannot be modified directly. If changes are required to the evaluation of any Critical Criterion -for example, as a result of the exercise debriefing- those changes shall be made in the corresponding Category or Subcategory tab where the Criterion was originally evaluated. Once the changes have been made, the Critical tab will automatically reflect the updated results.

6.6. Tool feedback

The **MEDIR© tool** was developed with input from experienced professionals from several companies who had the opportunity to beta-test the tool in the Latin American region and internationally. Their experience and feedback contributed to the development and refinement of the methodology and the tool.

As MEDIR© is intended for worldwide use and has the potential to become an industry standard for the evaluation of emergency response exercises and drills, Arpel has decided to release this version with a mechanism that allows users to provide feedback on its application and identify opportunities for further improvement.

At the end of the MEDIR© tool, users will find a "Tool Feedback" tab. This tab provides an opportunity to report errors, identify inconsistencies, suggest improvements, or provide other comments regarding the use of the tool. **Feedback may be submitted to** info@arpel.org.uy. All feedback will be reviewed by a joint Arpel/ Ipieca Task Force and considered for potential incorporation into future versions of MEDIR©.

The contribution of end users -companies committed to reviewing and continuously improving the design, delivery, and evaluation of their exercises and drills- is essential to the further development of MEDIR©. User feedback and practical experience will help ensure that the tool remains relevant, effective, and applicable across different organizations and regions, and will contribute to its potential adoption as an industry standard for enhancing preparedness and response to oil spills and other emergencies.

07.

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Appendix A

Emergency Drills & Exercises Evaluation Checklist

Note:

Criteria shaded in dark blue are related to ICS Performance Dimensions

Criteria with an asterisk* and shaded in purple are critical criteria

arpel ASSOCIATION OF OIL, GAS AND RENEWABLE ENERGY COMPANIES OF LATIN AMERICA AND THE CARIBBEAN

In collaboration with ipieca

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Exercise/Drill Overview

Plan Holder:	
Emergency Management Team: *fill below*	

Choose the one that applies

	Tabletop exercise
	Drill
	Functional Exercise
	Full-scale Exercise

Exercise/Drill ID Number:	
Date:	
Time started:	
Time completed:	
Location:	
Latitude/Longitude of emergency scenario:	
Country:	
Area: choose from Coastal, Inland, Port:	

Actual conditions of the day *(include weather, tides/current and any other pertinent environmental conditions)* **:** *fill below*

Scenario *(including estimated size/threat of spill to water or inland)* **:** *fill below*

1. NOTIFICATIONS

☐ **1.1* Internal (initial-first responders) emergency response team was notified following plan procedures.**

- Initial information validated in situ.
- Notification form delivered/received from the field.
- Notification form is complete/reliable.

☐ Observed OR ☐ Verified documentation.

☐ **1.2 Entire emergency response organization (including away team members and other contractors intended to assist with emergency management, Primary Response Contractor, Spill Management Team, and Wildlife Response Service Provider) was notified in a timely manner, following plan procedures.**

☐ Observed OR ☐ Verified documentation.

☐ **1.3* Notifications to government agencies were made in a timely manner following plan procedures.**

☐ Observed OR ☐ Verified documentation AND ☐ Verified with authorities.

☐ **1.4 The main management structure of the organization was informed in a timely manner.**

2. INITIAL RESPONSE ACTIONS

☐ **2.1* Initial Site Safety addressed following plan procedures.**

- ☐ Isolation of the area and delimitation of access points
- ☐ Air monitoring documented.
- ☐ Documentation developed (risk and hazard analysis).
- ☐ Potential to extrapolate facility boundaries
- ☐ Briefing observed.

☐ **2.2 The Alarm, Evacuation and Response Time were according to the plan**

- ☐ Alarm was activated with an audible sound level
- ☐ Employees/contractors/visitors were evacuated to the meeting point
- ☐ There was a staff count
- ☐ The meeting point was identified, and everyone was aware of it
- ☐ The evacuation time was within the expected timeframe

☐ **2.3 Performed initial assessment of emergency status.**

- ☐ Source status identified
- ☐ Spill volume or flowrate calculated (for example, using mass balance).
- ☐ Environmental conditions assessed (i.e. weather, wind, rain, tides).
- ☐ Analyzed where product was going (using trajectory, river speed).
- ☐ Deployed or discussed use of limited visibility tracking devices as identified in the plan.
- ☐ Product type identified or provided in scenario and SDS acquired.
- ☐ Spill trajectory forecast estimated

☐ **2.4 The call roles were duly fulfilled**

- ☐ The manager on duty called to the company's emergency number to activate resources
- ☐ There was a follow-up/management of the previous call
- ☐ Deputy Manager on duty was identified
- ☐ The role activation time was within the plan timeframe

☐ **2.5 Population Protection: Demonstrated the ability to quickly identify health hazards associated with the discharged product and the population at risk.**

- ☐ Acquired knowledge of risks.
- ☐ Notified the public (i.e., communities dwelling near the facility) of possible health hazards.

OR

- ☐ Not applicable.

☐ **2.6 Water Intake Protection: Demonstrated the ability to quickly identify water intakes and followed the proper protection procedures from the emergency plan, a Geographic Response Plan, or developed a plan for use.**

- ☐ Identified intakes in vicinity of spill/trajectory and started notifications.

OR

- ☐ Not applicable.

☐ **2.7* Documented early actions on ICS Form 201.**

- Initial Incident Map is appropriately labeled (for example, scale, time, author, north arrow, date).
- Objectives developed.
- Current Actions documented including input from key team members.
- Initial Organization.
- Initial Resources ordered documented on ICS Form 201.

☐ **2.8 Demonstrated smooth transition of the key personnel from initial response team to the emergency management team through completion of an Initial Incident Briefing (ICS Form 201).**

- ICS Form 201 or equivalent handout available for Incident Commander.
- Briefing followed ICS Form 201 format.
- Objectives identified during briefing.
- Observed transition from initial Incident Commander to the incoming Incident Commander and other Authorities Having Jurisdiction (AHJ)
- Key members of command and general staff present and identified/introduced.

☐ **2.9 Demonstrated the ability to assemble the response organization identified in the response plan being exercised.**

- Number of personnel in the response organization are sufficient for the scope and complexity of the exercise scenario.

☐ **2.10 All plan holders citing supplemental resources in their plans demonstrated the process for activation of those resources.**

- Call out resources according to the process in the plan.
- Integrate and coordinate those resources with other plan resources.

☐ **2.11 Plan holders that cover multiple vessel companies must demonstrate an effective transition from the initial emergency management team to the vessel company emergency management team.**

3. RESPONSE MANAGEMENT:

Demonstrate the ability of the response organization to operate within the response management system identified in their respective plans. Assess the function, not the individual. **The OPTIONAL questions** are intended to gather qualitative observations throughout the operational period.

☐ **3.A Overall Staffing and Coordination:** *Demonstrated the ability to field the team as described in the plan and ensure coordination between sections.*

☐ **3.A1* Expanded response management team task assignments were consistent with the emergency plan**

- ☐ Away team was present OR ☐ Not applicable.
- ☐ Away team members fill roles as indicated in the Emergency Plan.
- ☐ The following were designated/established:
  - Incident Commander
  - Safety Officer
  - Information Officer
  - Liaison Officer
  - Operations Section
  - Planning Section
  - Resource Unit
  - Situation Unit
  - Environmental Unit
  - Documentation Unit
  - Logistics Section
  - Finance Section

☐ **3.A2 Coordination took place between the following ICS sections.**

- ☐ Planning and Operations
- ☐ Planning and Logistics
- ☐ Operations and Logistics
- ☐ Operations and Safety
- ☐ Incident Commander and Command and General Staff

☐ **3.A3 Communication and Coordination**

3.A3.1 How effectively did the IC communicate the resource requesting processes and ensure excess resources were demobilized?

3.A3.2 How effective was communication among all sections?

3.A3.3 Were operational activities efficiently subdivided based on complexity, size, and task requirements?

3.A3.4 How well did they mobilize and document the use of trained personnel and equipment?

☐ **3.B Incident Command (IC) and Authorities Having Jurisdiction (AHJ):**

☐ **3.B1 Members of the incident command structure were identified and an Initial Incident Briefing was conducted (for example, using an ICS Form 201 format).**

- ☐ Company Incident Commander designated.
- ☐ National Authority Having Jurisdiction (NAHJ) present (or invited).
- ☐ State/Provincial Authority Having Jurisdiction present (or invited).
- ☐ Local/County Authority Having Jurisdiction present (or invited).

- [ ] **3.B2 Incident Commander considered the following issues.**
  - [ ] Staffing needs, including the need for night operations or second shift staffing.
  - [ ] Qualifications of staff for key positions—Command and General Staff.
  - [ ] Meeting Schedule, including press conferences and other special purpose meetings.
  - [ ] Role of deputies and others working within the incident command structure, if applicable.
  - [ ] Development of a Strategic Plan by incorporating input from all members of the incident command structure.
  - [ ] A process to review and sign various plans developed to support the Incident Action Plan. Adequate planning and dealing with external stakeholders.

- [ ] **3.B3 Operational Period discussed and established.**
  - [ ] Safety conditions
  - [ ] New features availability
  - [ ] Environmental conditions
  - [ ] Definition of the time required or available to comply with tactical definitions
  - [ ] Factors such as the duration of remaining natural (solar) light and weather conditions that may affect decisions about the length of the Operational Period

- [ ] **3.B4 Incident Commander developed and prioritized overall incident objectives and assessed if current and planned actions were consistent with those objectives.**
  - [ ] Updated ICS Form 201 Objectives or completed ICS Form 202 for the current operational period.
  - [ ] Completed ICS Form 202 for the next operational period (if applicable).

- [ ] **3.B5 Incident Commander prepared for and participated in Press Conference.**
  - [ ] Incident Commander attended pre-press conference meeting with Information Officer.

- [ ] **3.B6 Dedicated historian/scribe assigned to incident command structure.**

- [ ] **3.B7 Incident Commander approved or authorized news releases and other updates to the news media through the Information Officer.**
  - [ ] Incident Commander verified accuracy of press releases.
  - [ ] Incident Commander signatures were in press releases.
  - [ ] Incident Commander approved use of -and policies on use of- social media, such as:
    - X (Twitter), blogs, or others.
    - Videos/Interviews with subject matter experts.
    - Live streaming events

- [ ] **3.B8 Direction & Decision Making**

  3.B8.1 How effectively did the Incident Commander set and communicate priorities for the operational period, including escalation, resource reallocation, or demobilization decisions?

  3.B8.2 Were defensible decisions made under time pressure, dynamic conditions, and uncertainty, with the rationale documented and traceable in the IAP, ICS Form 201, or equivalent record?

- [ ] **3.B9 Communication & Coordination**

  3.B9.1 How well did the Incident Commander communicate priorities, decisions, and assignments to Command and General Staff throughout each operational period?

  3.B9.2 Were external stakeholders (AHJ representatives, response contractors, away team members) kept appropriately informed through the Liaison Officer and Joint Information Center?

- [ ] **3.B10 Situational Awareness**

  3.B10.1 How effectively did the Incident Commander gather, interpret, and act on incoming information to maintain operational relevance throughout the operational period?

  3.B10.2 Did the Incident Commander recognize and respond to changes in incident scope or complexity, including the need for additional staffing, second-shift operations, or transition of command?

☐ **3.C Information Officer/Joint Information Center (JIC):**

☐ **3.C1 Information Officer designated by the Incident Commander.**

- ☐ Individual designated by Incident Commander.

☐ **3.C2 The JIC was established.**

- ☐ JIC prepared a media communication plan.
  - • JIC developed a cycle for continuous release of information.
  - • JIC used the manual of the emergency plan

☐ **3.C3 News releases and Social Media Tools**

- ☐ News releases were published as requested by Incident Commander.
- ☐ JIC prepared initial news release
- ☐ JIC requested social media policy approval by incident commander, if applicable.
- ☐ JIC made effective use of social media and followed policies on use of social media as described in the response plan:
  - • Website, X (Twitter), blogs, Facebook, Flickr, or other.
  - • Videos/Interviews with subject matter experts.
  - • Live streaming events
  - • Information releases were accurate.

☐ **3.C4 Preparation for press conference.**

- • Speakers identified.
- • Questions from the media predicted and draft answers provided to speakers.
- • Outline for the press conference discussed.
- • Displays/Maps developed for press conference match command post maps and information.

☐ **3.C5 Ensured appropriate representatives and technical specialists -as defined by the Incident Commander- were present and contributed to all news briefings.**

☐ **3.C6 Information Officer attended meetings as appropriate**

☐ **3.C7 Direction & Decision Making**

3.C7.1 How effectively did the Information Officer prioritize and time news release approvals, balancing accuracy, transparency, and Incident Commander direction?

3.C7.2 Were decisions about social media use, technical specialists at briefings, and press conference content made in line with the response plan and incident objectives?

3.C7.3 How effectively did the JIC make decisions about resource allocation across releases, briefings, and media monitoring? (If there is no Resource Unit, the Information Officer should also consider how internal JIC staffing was planned and adjusted.)

☐ **3.C8 Communication & Coordination**

3.C8.1 Was coordination with the Liaison Officer, Operations Section, and technical specialists effective in ensuring releases were accurate, timely, and consistent with field reality?

3.C8.2 Did the JIC develop and maintain a continuous cycle of information release, including a media communication plan, that was understood across the response organization?

☐ **3.C9 Situational Awareness**

3.C9.1 How effectively did the JIC monitor media coverage, social media sentiment, and community reaction to inform subsequent communications?

3.C9.2 Were emerging stakeholder concerns, misinformation risks, or community questions identified and fed back into Command for consideration?

3.C9.3 Did the Information Officer maintain awareness of changes in incident scope or sensitivity that warranted adjustments to the communication strategy?

☐ **3.D Liaison:**

☐ **3.D1 Liaison Officer (LOFR) designated.**
- ☐ Individual designated by Incident Commander.

☐ **3.D2 Liaison function was established.**
- ☐ Coordinated with applicable sections, units, and command staff positions as applicable.
- ☐ Identified Contact Lists for key local governmental authorities and community leaders.

☐ **3.D3 Liaison provided timely information to key local governmental authorities and Community Leaders.**

☐ **3.D4 Developed a Liaison Plan.**
- ☐ Plan provided for continuing release of information to Liaison contacts.
- ☐ Liaison used Emergency Plan.

☐ **3.D5 Liaison Officer attended meetings as appropriate.**

☐ **3.D6 Direction & Decision Making**

3.D6.1 How effectively did the Liaison Officer prioritize agency engagement decisions, including which authorities and community leaders to contact first and how to escalate engagement?

3.D6.2 Were decisions about Liaison Plan content, contact list scope, and continuing release of information made in line with the emergency plan and incident objectives?

3.D6.3 How effectively did the Liaison Officer make decisions about staffing the Liaison function across operational periods? (If there is no Resource Unit, the Liaison Officer should also consider how internal staffing was planned and adjusted.)

☐ **3.D7 Communication & Coordination**

3.D7.1 How well did the Liaison Officer manage information exchange with key local governmental authorities, AHJ representatives, and community leaders throughout the operational period?

3.D7.2 Was coordination with applicable Sections, Units, and Command Staff effective in ensuring stakeholder concerns were heard and fed into the response?

3.D7.3 Did the Liaison function maintain timely and continuing release of information to Liaison contacts, in line with the Liaison Plan?

☐ **3.D8 Situational Awareness**

3.D8.1 How effectively did the Liaison Officer read the political and community context, including emerging concerns from agencies, AHJs, and community leaders?

3.D8.2 Were shifts in stakeholder posture, agency expectations, or community sentiment identified early and communicated to Command?

3.D8.3 Did the Liaison function maintain awareness of jurisdictional dynamics, regulatory expectations, and interagency tensions that could affect the response?

☐ **3.E Safety: Demonstrated the ability to monitor all field operations and ensure compliance with national and municipal safety regulations.**

☐ **3.E1 Safety Officer (SOFR) designated.**

☐ **3.E2* Ensured safety plan was developed in a timely manner in accordance with the emergency plan and meeting national and state/province/local regulatory requirements.**

The plan covers all operations of the response, and responding personnel, including as applicable:
- Source control
- Night operations,
- Salvage
- Marine firefighting

- Containment,
- Recovery,
- Shoreline protection strategies
- Disposal and storage operations
- Mechanical recovery, dispersants and in situ burning,
- Wildlife impact assessment, reconnaissance, deterrence, capture, stabilization, and rehabilitation operations as needed.
- Responder and community air monitoring
- Advisories for workers and population protection
- Equipment maintenance and decontamination operations.
- SCAT

☐ Developed in writing or described during a meeting the plan to ensure proper communication with field staff beyond the timeframe of the drill.

☐ Coordinated with other Sections on tactics.

☐ **3.E3 Safety plan approved by the Incident Commander and communicated to appropriate field staff.**

☐ Incident Commander signature on Safety Plan

☐ Plan not completed but detailed appropriate to tactics (if plan complete but signature not acquired, provide explanation)

☐ **3.E4 Safety Officer attended meetings as appropriate.**

☐ **3.E5 Direction & Decision Making**

3.E5.1 How effectively did the Safety Officer make decisions about safety plan scope, stop-work authority, and safety controls appropriate to the tactics being used?

3.E5.2 Were decisions about advisories, air monitoring, decontamination, and population/worker protection made in line with regulatory requirements and the contingency plan?

3.E5.3 How effectively did the Safety Officer make decisions about staffing the Safety function across shifts and field locations? (If there is no Resource Unit, the Safety Officer should also consider how field safety coverage was planned and adjusted.)

☐ **3.E6 Communication & Coordination**

3.E6.1 How well did the Safety Officer communicate safety plan content, hazards, and controls to field staff, including arrangements for communication beyond the timeframe of the drill?

3.E6.2 Was coordination with Operations, Planning, Environmental, and Logistics effective in integrating safety considerations into tactics, decontamination, and waste management?

☐ **3.E7 Situational Awareness**

3.E7.1 How effectively did the Safety Officer monitor field operations and evolving safety conditions, including weather, fatigue, and emerging hazards across all operational areas?

3.E7.2 Were changes in tactics, environmental conditions, or responder exposure recognized and reflected in updated safety controls?

3.E7.3 Did the Safety function maintain awareness of compliance posture against national and municipal regulations throughout the operational period?

☐ **<u>3.F Operations Section:</u> Demonstrated the ability to coordinate or direct operations related to the implementation of response and emergency plans developed by the UC.**

☐ **3.F1 Operations Section was established following the emergency plan.**

☐ Operations Section staffed appropriately for scope of drill.

☐ Operations Section Chief trained in ICS, Emergency Plan.

☐ Operations Section Chief Deputy with emergency response expertise appointed

- [ ] **3.F2 Tactical assignments were made appropriate to the overall incident objectives developed by the Incident Commander.**
  - [ ] Operations Section Chief worked with the Planning Section Chief prior to the tactics meeting to develop draft ICS Form 215s for the next operational period.
    - Contain/recover spilled material.
    - Maximize protection of sensitive areas.
    - Maximize removal of oil from impacted areas
    - Maximize primary and secondary storage for recovered product.
    - Source control.
    - Salvage.
    - Wildlife impact assessment, reconnaissance, deterrence, capture, stabilization, and rehabilitation operations as needed.
    - Tactics appropriate for oils that may sink or submerge.
  - [ ] Tactics on the ICS Form 215s covered all operational incident objectives.

- [ ] **3.F3 Operations Section staff developed a plan to provide aircraft support for all elements of the response including operational support, environmental assessments, logistical transport and other Incident Command, JIC and/or Liaison needs.**
  - [ ] Plan included aircraft for all aspects of the response.
  - [ ] Ordered support resources including aircraft maintenance, fueling, and staging.
  - [ ] Completed ICS Form 220.
  - [ ] Documentation was submitted or a general message was circulated that detailed the above information.

- [ ] **3.F4 Operations Section staff coordinated with the Planning Section on the following strategies, if appropriate for plan holder and scope of the drill.**
  - [ ] Salvage and firefighting operations.
  - [ ] Develop division boundaries.
  - [ ] Ad hoc shoreline booming strategies.
  - [ ] Shoreline Cleanup Assessment Technique teams and shoreline cleanup teams.
  - [ ] Disposal and sampling plans and logistics.
  - [ ] Enhanced mechanical recovery and alternate technologies.
  - [ ] Assess, detect, and respond to potential non-floating oil
  - [ ] SIMA development

- [ ] **3.F5 Operations Section staff coordinated with Planning and Logistics to develop resource orders, tracking, and documentation.**
  - [ ] Equipment status change forms submitted.
  - [ ] Check-in forms submitted.
  - [ ] Identified needs for shoreline cleanup workers (if applicable).
  - [ ] Identified needs for non-dedicated workboats, or contracted vessels of opportunity (if applicable).
  - [ ] Identified needs for non-floating oils detection and recovery resources (if applicable).
  - [ ] Identified other response resources needed

- [ ] **3.F6 Operations Section staff coordinated with the Planning Section to ensure situation status displays were accurate.**

- [ ] **3.F7 Operations Section staff coordinated with the Planning Section to ensure the disposal plan is developed and accurate.**
  - [ ] Provided input to Environmental Unit Leader.
  - [ ] Coordinated interim disposal locations.
  - [ ] Temporary storage and disposal sites identified with feasible logistics

- [ ] **3.F8 Operations Section Chief attended meetings as appropriate.**

☐ **3.F9 Coordinated with governmental AHJ's representatives as appropriate to the scope of the drill.**

- Local fire department/police department participated in Operations.
- National representative participated in Operations.

☐ **3.F10 Direction & Decision Making**

3.F10.1 How effectively did the Operations Section Chief make tactical assignment decisions and prioritize resources to align with overall incident objectives developed by the Incident Commander?

3.F10.2 Were decisions about source control, recovery, protection priorities, salvage, and aircraft support made in line with the response plan and operational realities?

3.F10.3 How effectively did the Operations Section Chief make decisions about staffing the Operations Section across day and night shifts and field divisions? (If there is no Resource Unit, the Operations Section Chief should also consider how field operations resourcing was planned and adjusted.)

☐ **3.F11 Communication & Coordination**

3.F11.1 How well did the Operations Section coordinate with the Planning Section on ICS Form 215s, division boundaries, situation status displays, and disposal planning?

3.F11.2 Was coordination with Logistics on resource orders, tracking, and support effective throughout the operational period?

3.F11.3 Did the Operations Section Chief engage appropriately with governmental AHJ representatives (local fire/police, national representatives) and ensure tactics were communicated across the response organization?

☐ **3.F12 Situational Awareness**

3.F12.1 How effectively did the Operations Section maintain an accurate picture of field operations, tactical effectiveness, and changing conditions across all divisions?

3.F12.2 Were emerging tactical challenges, resource gaps, or environmental shifts recognized early and reflected in revised tactics or escalation requests?

3.F12.3 Did the Operations Section Chief maintain awareness of safety, environmental, and logistical constraints that affected tactical decisions throughout the operational period?

☐ **3.G Wildlife Branch:**

☐ **3.G1 Team is formed and leader designated**

3.G1.1 Wildlife Branch roles and responsibilities were agreed between the Environmental Unit and Operations Section (e.g. development of plans and securing permits vs field activities)

3.G1.2 The team was staffed appropriately for the type and scale of the incident and included regulators, contractors, academia, and RP staff as needed.

☐ **3.G2 Wildlife Branch deliverables**

3.G2.1 Regulatory requirements and limitations for wildlife protection and handling mandatory consultations were identified and communicated to relevant teams?

3.G2.1 A Wildlife Management Plan for birds, mammals, reptiles, etc., was developed (including observations, carcass collection, deterrence, oiled wildlife collection, rehabilitation, work assignments, data management and reporting procedures)

☐ **3.G3 Direction & Decision Making**

3.G3.1 How effectively did the Wildlife Branch make decisions about reconnaissance priorities, deterrence strategies, and capture/rehab activities in line with the contingency plan and stakeholder expectations?

3.G3.2 Were decisions about oiled wildlife response equipment deployment, carcass collection protocols, and use of permitted handlers and volunteers made appropriately?

3.G3.3 How effectively did the Wildlife Branch make decisions about staffing and resourcing wildlife response activities? (If there is no Resource Unit, the Wildlife Branch should also consider how oiled wildlife personnel support needs were planned and met.)

- [ ] **3.G4 Communication & Coordination**
  - 3.G4.1 How well did the Wildlife Branch coordinate wildlife response information and messages with the JIC, including hotline numbers?
  - 3.G4.2 How well did the Wildlife Branch coordinate with the Planning Section (Situation Unit, Environmental Unit, Data Management Unit), on Resources at Risk, reporting, sampling and waste management?
  - 3.G4.3 Was coordination with the Safety Officer effective in integrating safety into wildlife management, including handling protocols and field hazards?

- [ ] **3.G5 Situational Awareness**
  - 3.G5.1 How effectively did the Wildlife Branch monitor wildlife impact resulting from the spill as well as response options?
  - 3.G5.2 Were changes in oiling extent, weather, or sensitive area exposure recognized and reflected in the updated wildlife plans and work assignments?
  - 3.G5.3 Did the Wildlife Branch maintain awareness of community sensitivity around wildlife impacts and feed that awareness into the Liaison and JIC functions?

- [ ] **3.H Planning Section: Demonstrated the ability to consolidate the various concerns of the members of the incident command structure into planning recommendations and to develop support for tactical plans for the Operations Section.**

  - [ ] **3.H1 Planning Section was established following the emergency plan.**
    - [ ] Planning Section staffed appropriately for scope of drill.
    - [ ] Planning Section Chief trained in ICS and company response plan.
    - [ ] Worked on a strategic plan by incorporating input from all members of the incident command structure.

  - [ ] **3.H2 Planning Section staff utilized the appropriate tools.**
    - [ ] Company emergency plan.
    - [ ] Response strategies and decision-making information contained in the plan, etc.
    - [ ] Common Operating Picture established

  - [ ] **3.H3 Planning Section Chief established an appropriate meeting schedule.**
    - [ ] Draft meeting schedule provided to Incident Commander.
    - [ ] Meeting schedule allowed time for staff to prepare and develop deliverables.
    - [ ] Meeting schedule included all meetings appropriate to the scope of drill.

  - [ ] **3.H4 Planning Section Chief facilitated and ensured appropriate attendance and participation at all scheduled meetings.**

  - [ ] **3.H5 Prepared meeting room displays as needed or handouts available including:**
    - [ ] Agenda for the meeting.
    - [ ] The following displays are developed, if applicable:
      - Weather, tides, and currents for current and next operational period.
      - Trajectory, situation, and planning maps for current and next operational period.
      - Current over flight map.
      - ICS Form 202.

  - [ ] **3.H6 Prepared and maintained situation displays.**
    - [ ] Out-of-date or obsolete information is removed in a timely manner.
    - [ ] Set-up is well organized, and the information is updated on a schedule.
    - [ ] Situation displays included the following, as appropriate:
      - Weather, tides
      - Resources at risk
      - Trajectory, situation and planning maps

- Response objectives
- Master resource list
- Organization chart
- Over flight map
- Meeting schedule
- Incident status summary (ICS Form 209)

☐ **3.H7 Developed, maintained, and posted a master list of all resources involved the incident including check-in, status, current location, assignment.**

☐ **3.H8 Documented all operational and support aspects of the response and provided detailed records of decisions and actions taken.**

- ☐ Documentation flow and process established and communicated to Sections.
- ☐ Reviewed all documentation for signature, correct operational period, and incident name.

☐ **3.H9 Direction & Decision Making**

3.H9.1 How effectively did the Planning Section Chief make decisions about the planning cycle, meeting cadence, and the appropriate sequencing of deliverables to support the Incident Commander?

3.H9.2 Were decisions about strategic plan content, situation displays, and IAP development made in line with input from across the incident command structure?

3.H9.3 How effectively did the Planning Section Chief make decisions about staffing the Planning Section across operational periods? (If there is no Resource Unit, the Planning Section Chief should also consider how the master resource list and check-in process were planned and maintained.)

☐ **3.H10 Communication & Coordination**

3.H10.1 How well did the Planning Section consolidate input from members of the incident command structure into planning recommendations and tactical support for Operations?

3.H10.2 Was the meeting schedule effective in ensuring appropriate attendance, adequate preparation time, and timely production of meeting room displays and handouts?

☐ **3.H11 Situational Awareness**

3.H.11.1 How effectively did the Planning Section maintain an accurate Common Operational Picture and situation displays that reflected current conditions and resource status?

3.H.11.2 Were out-of-date or obsolete information removed in a timely manner, and were situation displays organized and updated on schedule?

3.H.11.3 Did the Planning Section Chief maintain awareness of changes in incident complexity that warranted adjustments to the planning cycle, organization chart, or ICS Form 209 incident status?

☐ **3.I Environmental Unit:**

☐ **3.I1 Unit Leader designated by the Incident Commander.**

☐ **3.I2 Plan holder developed the following core Environmental Unit activities, as appropriate to the drill design and following the emergency plan.**

3.I2.1 Environmental Unit organizational chart and extended response staffing plan

3.I2.2 Analysis of weather forecasts is acquired and distributed (unless completed by Situational Unit)

3.I2.3 Extent, fate, and effects of contamination determined, including trajectory, weathering, and mass balance modeling (unless completed by Situational Unit)

3.I2.4 Remote sensing and data documentation plan for all missions is developed, including slick location and appearance, RARs, wildlife, SCAT, and Operations (unless done by Situational Unit)

3.I2.5 ICS Forms 232 and 232a completed, identifying Resources at Risk (ecological, socio-economic, cultural, historical, archeological), their priorities, and protection strategies

3.I2.6 Advanced Response Techniques (surface and subsea dispersants, in-situ burning, surface washing agents, bioremediation, etc.) are evaluated, with regulatory and operational support for their use (including development of NEBA/SIMA/CERA documents and field monitoring).

3.12.7 Environmental, cultural, and socio-economic impacts of the spill and response actions are monitored and documented (sampling and monitoring of air, water, slick, and soil)

3.12.8 Shoreline cleanup and assessment plans (SCAT) developed, including estimation of shoreline oiling, selection of cleanup strategies, end-points, and test methods

3.12.9 Identified the need for, prepared, and distributed necessary advisories or orders (e.g. Best Management Practices for Operations, ICS Form 215e, etc.).

3.12.10 Identified the need for, and obtained, permits, consultations, and other authorizations.

3.12.11 Waste Management Plan was developed with the Operations Section, including estimates of recovered and treated oil

3.12.12 Developed or supported planning for community air monitoring; coordinated with Safety, Operations, JIC and Liaison

3.12.13 Wildlife Management Plan (for birds, mammals, reptiles, etc. including observations, deterrence, collection, rehabilitation, etc.) is developed (unless completed by Operations)

3.12.14 Communication materials are prepared for the Unified Command, JIC, and Public Information Officer

☐ **3.13 Direction & Decision Making**

3.13.1 How effectively did the Environmental Unit make decisions about sensitive area protection priorities, response technology selection, and SIMA development in line with the contingency plan?

3.13.2 Were decisions about disposal plans, sampling plans, advisories, permits, and protection of historical/cultural resources made appropriately and in coordination with Operations?

3.13.3 How effectively did the Environmental Unit make decisions about staffing environmental support across operational periods? (If there is no Resource Unit, the Environmental Leader should also consider how environmental specialist resourcing was planned and adjusted.)

☐ **3.14 Communication & Coordination**

3.14.1 How well did the Environmental Unit coordinate with Operations on RAR protection plans, disposal plans, shoreline cleanup plans, Advanced Response Techniques, and wildlife management plans?

3.14.2 Was coordination with Safety, JIC, and Liaison effective on community air monitoring, Advanced Response Techniques, public advisories, and stakeholder concerns?

3.14.3 How well did the Environmental Unit supported JIC and Liaisons in developing communication materials?

3.14.4 How well did the Environmental Unit integrated expertise from the Responsible Party, Industry partners, Contractors, Regulators, and Academia into the response?

☐ **3.15 Situational Awareness**

3.15.1 How effectively did the Environmental Unit monitor the extent, fate, and effects of contamination, including weather forecasts and trajectory updates (unless addressed by Situational Unit)?

3.15.2 Were environmental consequences of the spill and cleanup actions monitored?

3.15.3 Did the Environmental Leader maintain awareness of regulatory exposure, permit requirements, and emerging sensitive-area issues that could affect the response posture?

☐ **3.J Logistics Section: Demonstrated the ability to provide the necessary support of both the short and long-term action plans.**

☐ **3.J1 Logistics Section was established following the emergency plan.**

- ☐ Logistics Section staffed appropriately for scope of drill.
- ☐ Logistics Section Chief trained in ICS.

☐ **3.J2 Resource ordering process established.**

- ☐ Informed the Command and General staff on the process.
- ☐ Established signature authority.

☐ **3.J3 Developed, maintained, and posted an incident Radio Communications Plan (ICS Form 205) and Communications List (ICS Form 205a).**

- [ ] **3.J4 Developed a Medical Plan that encompasses all areas of the response.**

- [ ] **3.J5 Developed or described a plan, and ordered all resources necessary, to ensure sufficient feeding, potable water, sanitary arrangements, and berthing was available to meet incident's needs.**

- [ ] **3.J6 Provided personnel for all elements of the response, as applicable.**
  - [ ] Command post staffing, day and night shift.
  - [ ] Field staffing, day and night shift.

- [ ] **3.J7 Established a command post that accommodated the needs of the response organization.**
  - [ ] Command post/facility was appropriate for the scope of the drill.

    OR
  - [ ] Plan was in place to move command post to more appropriate location as drill/emergency ramps up.

- [ ] **3.J8 Identified and planned for staging areas and other areas as needed.**
  - [ ] All staging areas were listed on the ICS Form 215.
  - [ ] Ensured situation unit and operations identified the same staging areas.

- [ ] **3.J9 Developed a plan to provide ground support/traffic plan including vehicle maintenance, fueling, and parking.**

- [ ] **3.J10 Developed a plan to provide support for all response vessels including vessel maintenance, fueling, and berthing.**

- [ ] **3.J11 Logistics Section Chief attended meetings as appropriate.**

- [ ] **3.J12 Direction & Decision Making**

  3.J12.1 How effectively did the Logistics Section Chief make decisions about resource ordering processes, signature authority, command post location, and staging area selection?

  3.J12.2 Were decisions about communications plans, medical plans, feeding/sanitation/berthing arrangements, and ground/vessel support made appropriately for the scope of the response?

  3.J12.3 How effectively did the Logistics Section Chief make decisions about staffing across day and night shifts at the command post and in the field? (If there is no Resource Unit, the Logistics Section Chief should also consider how the resource ordering and tracking process covered staffing as well as equipment.)

- [ ] **3.J13 Communication & Coordination**

  3.J13.1 How well did the Logistics Section inform Command and General Staff about the resource ordering process and ensure it was understood across the response?

  3.J13.2 Was coordination with Operations on resource orders, tracking, and documentation effective throughout the operational period?

  3,J13.3 Did the Logistics Section coordinate effectively with Planning on the master resource list, check-in process, and staging area documentation?

- [ ] **3.J14 Situational Awareness**

  3.J14.1 How effectively did the Logistics Section maintain awareness of resource availability, supply chain status, and emerging logistical needs across the response?

  3.J14.2 Were gaps in equipment, personnel, or facilities recognized early and reflected in updated resource orders or escalation requests?

  3.J14.3 Did the Logistics Section Chief maintain awareness of changes in incident scope that warranted moving the command post, expanding staging areas, or adjusting support arrangements?

- [ ] **3.K Finance Section: Demonstrated the ability to document the daily expenditures of the organization and provide cost estimates for continuing operations.**

- [ ] **3.K1 Finance section established following emergency plan.**

- [ ] **3.K2 Finance is able to provide a cost estimate (burn rate) if requested.**

- [ ] **3.K3 Compensation and claims numbers established, and information distributed.**

- [ ] **3.K4 Direction & Decision Making**
  - 3.K4.1 How effectively did the Finance Section make decisions about cost estimates, burn rate calculations, and the financial framework for the response?
  - 3.K4.2 Were decisions about compensation and claims processes, including establishing claim numbers and distributing information, made appropriately for the scope of the response?
  - 3.K4.3 How effectively did the Finance Section Chief make decisions about staffing the Finance Section across operational periods? (If there is no Resource Unit, the Finance Section Chief should also consider how cost-tracking and timekeeping coverage was planned and adjusted.)

- [ ] **3.K5 Communication & Coordination**
  - 3.K5.1 How well did the Finance Section inform Command and General Staff about cost posture, burn rate, and emerging financial considerations?
  - 3.K5.2 Was coordination with Logistics on resource costs, contracts, and procurement effective throughout the operational period?
  - 3.K5.3 Did the Finance Section communicate compensation and claims information in a way that was understood across the response and accessible to affected parties?

- [ ] **3.K6 Situational Awareness**
  - 3.K6.1 How effectively did the Finance Section maintain awareness of cost drivers, contract obligations, and emerging financial exposures across the response?
  - 3.K6.2 Were changes in tactics, resource deployment, or incident scope recognized as cost implications and reflected in updated estimates?
  - 3.K6.3 Did the Finance Section Chief maintain awareness of regulatory and reporting expectations that affected the financial documentation posture?

4. RESPONSE OPERATIONS

Note: The check items for Response Operations are for deployment drills only.

- [ ] **4.A Initial Response Operations:**

- [ ] **4.A1* Initial Site Safety equipment deployed and Safety Officer designated.**
  - [ ] Site safety assessed before deployment (list resources used, including home base or staging area).
  - [ ] Assessed environmental conditions and determined that equipment is appropriate before deployment.
  - [ ] Air monitoring documented.
  - [ ] Documentation developed (hazard worksheet).
  - [ ] Briefing conducted and documented.

- [ ] **4.A2 The local/internal response team members identified in the emergency plan were mobilized and on-site appropriate to the scope of the drill.**

- [ ] **4.A3 The number of personnel appropriate for the environmental conditions and the scope of the drill were mobilized (including the number and affiliation of the personnel).**

- [ ] **4.A4 Walk through emergency shutdown procedures for each type of transfer identified in the emergency plan, by the appropriate trained personnel. The areas of emergency shutdown are customized for the plan. Credit for testing emergency shutdown is cumulative; all applicable areas do not need to be tested during one drill**

- [ ] Pipeline to/from facility
- [ ] Facility pipeline to/from vessel
- [ ] Vessel to vessel
- [ ] Truck racks
- [ ] Rail Car Unloading Facility
- [ ] Internal Transfer

- [ ] **4.A5 Plan holders field tested first response communication equipment and systems following plan procedures.**
  - [ ] Observed utilization/coordination of all communications equipment listed in the plan (list equipment, system, and channels used).

- [ ] **4.A6 Plan holders and response contractors were able to communicate during the deployment, following plan procedures.**
  - [ ] Observed utilization/coordination of all communications equipment (include equipment, system, and channels used).

- [ ] **4.A7 Plan holders deployed equipment described in the plan to track the spill.**
  - [ ] Deployed limited visibility tracking devices.

- [ ] **4.B Containment and Mitigation:**

- [ ] **4.B1 Deployment drills are conducted in a variety of locations that the plan holders could impact. Equipment deployed is appropriate for the operating environment and includes boom, recovery and storage.**
  - [ ] Boom
  - [ ] Recovery
  - [ ] Interim Storage

- [ ] **4.B2 Plan holders began initial deployment of on-site boom identified in the emergency plan.**

- [ ] **4.B3 Plan holders deployed initial mechanical recovery equipment identified in the emergency plan.**

- [ ] **4.B4 Demonstrate ability to source the resources and capability necessary to respond to a spill of potentially non-floating oils.**

- [ ] **4.B5 Set-up and demonstrated the ability to transfer product from skimmer or interim storage to shoreside storage (vacuum truck/baker tank) or fixed storage facilities.**
  - Barge to shoreside tanks.
  - Fast tank to Vac Truck.
  - OSRV interim tank to barge/shallow water barge
  - Initial interim tank to shallow water barge.

- [ ] **4.B6 Demonstrated and described containment of a land spill from entering water by channeling, diverting, or berming as well as recovery and storage of product.**
  - [ ] Demonstrated and described one of the above techniques.
  - [ ] Deployed resources (list resource used including home base or staging area).

- [ ] **4.B7 Demonstrated and described damage control procedures as identified in the emergency plan (such as plugging or patching a leak in a pipeline or storage tank).**
  - [ ] Walked through the above procedures.
  - [ ] Identified resources for damage control.

☐ **4.C Wildlife Rehabilitation Equipment**

☐ **4.C1 Plan Holder deployed oiled-wildlife response equipment.**

- Wildlife impact assessment, reconnaissance, deterrence, capture, stabilization, and rehabilitation operations as applicable to the objectives
- Electrical power generation and distribution equipment.
- Water heating and handling equipment.
- Air handling equipment.
- Consumable equipment and medical supplies.
- Wildlife Response Service Provider or oiled-wildlife volunteers attended.

☐ **4.D Emergency Response Towing Vessel (ERTV):**
Note: this requirement only applies to vessels operating in harbors/ports.

☐ **4.D1 Plan Holder deployed ERTV identified in the plan.**

Deployment Drill Equipment List (as per exercise design scope)

#, if applicable	Equipment Owner (Primary Response Contractor, Plan Holder, other)	Equipment (e.g., boom, pump, skimmer, fire apparatus as pre-fire plan, source control, storage, trailer, vehicle, vessel) including brief description and staging location

Deployment Equipment Sourcing Documentation

Sourcing equipment allows to verify the depth of equipment that could have been brought to the site, verifying one aspect of preparedness on a given day. The equipment that is planned to be sourced and the amount of resources is determined during the design of the exercise/drill. Because a capability that is not required to be present (not required to arrive at staging or be deployed) is being verified, more than one asset may be sourced to help identify the amount of dedicated or non-dedicated resources that may be made available on a given day.

Please return the form to (insert drill evaluation lead name and contact information).

Plan Holder Name:				**Drill Date:**	
Form completed by:				**Date:**	
Sourced Equipment (Real Time Availability)					
Organization	**#, if applicable**	**Description of Resource**	**Location**	**Time Called Out**	**ETA**

Appendix B

The following describes the critical criteria for all four Categories of MEDIR© including a rationale of their criticality. This text can be accessed in the Excel MEDIR© tool by clicking on the comment sign in the upper right corner of the cell corresponding to each critical criterion. The cells describing the critical criteria in the MEDIR© tool are yellow shadowed for ease of identification during the evaluation.

Code	Critical criterion	Rationale for criticality
1.1*	Internal (initial-first responders) emergency response team was notified following plan procedures.	Notification is the foundational trigger for all subsequent response actions.
1.3*	Notifications to government agencies were made in a timely manner following plan procedures.	Regulatory notification is a legal obligation in virtually all jurisdictions.
2.1*	Initial Site Safety was addressed following plan procedures, including air monitoring documentation and hazard worksheet.	Site safety is the prerequisite for protecting responder lives.
2.7*	Early actions were documented on ICS Form 201 form (or equivalent), including objectives, current actions, initial organization, and initial resources ordered.	The ICS Form 201 is the foundational incident management document. Without it, there is no defensible record of decisions, no basis for transitioning to the incoming IC, and no starting point for IAP development.
3.A1*	Expanded response management team task assignments were consistent with the emergency plan.	The ICS structure is the foundation of coordinated response management.
3.E2*	A Safety Plan was developed in a timely manner and approved by the Incident Commander.	The Safety Plan is the primary instrument for protecting responder health and preventing escalation of the incident.
4.A1*	Initial site safety equipment was deployed, and a Safety Officer was designated prior to field deployment.	No deployment should proceed without a designated Safety Officer and verified safety setup.

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ARPEL MANUAL
Measuring Exercises and Drills Implementation Results MEDIR©

BEST PRACTICES

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ARPEL is a non-profit association gathering oil, gas and renewable energy sector companies and institutions in Latin America and the Caribbean. Founded in 1965 as a vehicle of cooperation and reciprocal assistance among sector companies, its main purpose is to actively contribute to industry integration and competitive growth, and to sustainable energy development in the region.

Its members currently operate in more than 30 countries in Latin America and the Caribbean, including national and international operating companies; technology, goods and services providers for the value chain, and national and international institutions in the sector.

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