



AzSPU Environmental Risk Assessment Procedure

Procedure for Environmental Risk Assessment of Chemicals and Hazardous Substances

AZSPU-HSSE-DOC-00120-2

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1.0 Purpose/Scope

This procedure describes the process of environmental risk assessment (ERA) for potential release of chemicals and hazardous substances.

This is a Tier 2 procedure applicable to AzSPU upstream operations for marine waters, and as such applies primarily to planned or potential (accidental) release of chemicals and hazardous substances into the Caspian Sea.

The purpose of the procedure is to define:

- circumstances under which an ERA is necessary;
- actions and information required to complete ERA.

While primarily applicable to AzSPU upstream operations for marine waters, the processes outlined in this document may also be applied to any situation in which it is planned, or considered possible, that there will be discharge to the environment of a chemical, hazardous material, or effluent containing such substances or their wastes or reaction products.

This procedure does not replace, nor should it conflict with:

- *AzSPU Chemical and Hazardous Materials Management Procedure* ([AZSPU-HSSE-DOC-00078-2](#));
- *Azerbaijan SPU Internal & External Material Release Reporting & Notification Procedure* ([AZSPU-HSSE-DOC-00075-2](#))
- *The Azerbaijan SPU Spill to Sea Response Plan for Offshore Facilities* ([AZSPU-HSSE-DOC-00018-3](#)) or other spill response plans;
- *Incident Investigation and Reporting Procedure* ([AZSPU-HSSE-DOC-00054-2](#))

This procedure has been prepared with reference to:

- *AzSPU Chemical and Hazardous Materials Management Procedure* ([AZSPU-HSSE-DOC-00078-2](#));
- *Azerbaijan SPU Internal & External Material Release Reporting & Notification Procedure* ([AZSPU-HSSE-DOC-00075-2](#))
- *Definitions* ([AZSPU-HSSE-DOC-00021-2](#)).
- *Caspian-specific Ecotoxicity Procedures: Methods Development and Implementation* (ERT 97/227) as approved by the Azerbaijan State Committee of Ecology September 2000.

Revision of this procedure and the operational controls detailed therein will be in accordance with Document Management (Document [AZSPU-HSSE-DOC-00025-2](#)) procedure as appropriate.

1.1 Limitations

As stated above, this procedure has been developed primarily to be applicable to the planned or potential discharge from BP upstream operations into marine waters, and as such addresses primarily issues surrounding chemical selection and use in operations on or around the Caspian Sea.

The quantitative risk assessment procedure outlined in Section 5.3 assumes use of toxicity data for Caspian Sea species. This data is based on acute toxicity response, and it should be noted that issues relating to chronic toxicity response and potential bioaccumulation are not addressed.

1.2 List of Abbreviations

AzSPU	Azerbaijan Strategic Performance Unit
COSHH	Control of Substances Hazardous to Health
CTM	Compliance Task Manager
ERA	Environmental Risk Assessment
ESIA	Environmental and Social Impact Assessment
PLONOR	Pose Little or No Risk to the Environment
PNEC	Predicted No Effect Concentration
OCNS	Offshore Chemical Notification Scheme
OECD	Organisation for Economic Co-operation and Development
HGA	Host Government Agreement
HSSE	Health, Safety, Security & Environment
HSSEMS	Health, Safety, Security & Environment Management System
MENR	Ministry of Ecology & Natural Resources
PLONOR	Pose Little or No Risk (to the Environment)
PSA	Production Sharing Agreement

2.0 Definitions

For definitions common to the hazardous materials management refer to the *AzSPU Chemical and Hazardous Materials Management Procedure* ([AZSPU-HSSE-DOC-00078-2](#)).

Refer to Document [AZSPU-HSSE-DOC-00021-2](#) *Definitions* for definitions common to this management system. Definitions specific to this procedure are included below:

<i>Term</i>	<i>Definition</i>
Bioaccumulation	The capacity of a chemical to be concentrated in biological tissue to levels significantly higher than in the environment.
Chronic	A relatively long period of exposure, usually a significant proportion of the life-span of the organism (often > 10%).
EC50	The median effective concentration. The concentration of a test material required to cause a 50% effect on a test response such as immobilisation.
Effluent	A liquid discharge to surface waters from an industrial, urban or agricultural process.
LC50	The median lethal concentration – the concentration of test substance estimated to cause mortality in 50% of the test population.
OECD	Organisation for Economic Co-operation and Development. An intergovernmental organisation. In the context of this work, OECD publishes internationally-agreed standard methods for conducting toxicity tests on chemicals. OECD also publishes the international guidelines on which member states base their procedures and legislation for Good Laboratory Practice.
OSPARCOM (OSPAR)	An intergovernmental organisation formed by the merging in 1992 of the OSLO Commission and the PARIS Commission. OSPAR co-ordinates policy and legislation on the discharge of materials from land-based and sea-based sources. Member nations implement OSPAR decisions through their own national environmental legislation. Also issues PLONOR list.
PNEC	The Predicted No-Effect Concentration is the concentration of a chemical below which exposure to a chemical is anticipated to have no impact on a target species.

3.0 General Requirements

3.1 Applicable standards

The following recognized international standards and legislation specific to the assessment of environmental risk shall apply as a minimum:

- OSPAR PLONOR list (acceptable candidate chemicals);
- OSPAR list I and II and chemicals subject to OSPAR decisions on phasing out or prohibition (unacceptable candidate chemicals);
- Chemicals which have passed the OSPAR pre-screening process (e.g. chemicals on the UK OCNS ranked list) (acceptable candidate chemicals).

3.2 Scheduling Requirements

While this procedure outlines the process for determining the requirement for an environmental risk, and the general process for undertaking the risk assessment, it should be recognised that in many (if not most) cases where an ERA is required both internal (AzSPU) review and external (regulator) review and approval will be required before a chemical is approved for use or a discharge allowed.

In instances where it is anticipated that an ERA may be required, sufficient time should be allowed not just to undertake the ERA but to ensure that both the internal and external review and approval process can be completed prior to the planned use of the chemical or discharge.

4.0 Key Responsibilities

4.1 PU / Asset Environmental Team Leader

The applicable PU/Asset Environmental Team Leader/Environment Manager, or their designee, shall be responsible for:

- Identifying planned or potential discharges and initiating the ERA process in consultation with the AzSPU Environmental Manager;
- Collecting the data and identifying resources required for an ERA;
- Undertaking, in consultation with the Central Environmental Team, the initial assessment of whether an identified planned or potential discharge has received prior approval;
- Overseeing the initial qualitative risk assessment, including engagement of specialist contractor(s) to conduct the assessment as required (in consultation with AzSPU Environmental Manager);
- Initiating and ensuring completion of the quantitative risk assessment, as required;
- Liaising with the AzSPU Environmental Manager with regard requirement for consultation with Regulators (MENR), and assisting with the consultation as required under the direction of the AzSPU Environmental Manager;
- Maintaining the Asset Discharge Register; and
- Ensuring ERA requirements are taken into account during the chemical selection process, as outlined in Section 5.1 of the *AzSPU Chemical and Hazardous Materials Management Procedure* ([AZSPU-HSSE-DOC-00078-2](#));

4.2 AzSPU Environmental Manager

The AzSPU Environmental Manager, or their designee, shall be responsible for..

- Assisting the PU/Asset Environmental Team Lead, as requested, in assessing the need for and scope of an ERA;
- Ensuring the database of all records pertaining to the approval process, i.e. ERA, permits etc, is maintained, and providing advise to the PU/Asset Environmental Team Lead as to whether prior approval for discharge has been received;
- Leading consultations with the regulatory authorities regarding environmental approval of chemicals used and reporting of discharges containing chemicals;
- Ensuring that Asset Environmental Advisors receive adequate training in environmental risk assessment;
- Ensuring central Register of chemicals approved for discharge is maintained and is regularly updated;
- Maintaining and updating this procedure, and revision and maintenance of Schedule of Environmental Statutory Reports in conjunction with the AzSPU HSSE Compliance Team and Accountable PU(s) / Asset Group(s).

4.3 Asset Operations Supervisor

The applicable PU/Asset Operations Supervisor, or their designee, shall be responsible for:

- Informing PU/Asset Environmental Team Leader/Environment Manager of any planned or anticipated discharges to the environment;

- Informing PU/Asset Environmental Team Leader/Environment Manager in advance of any new chemicals being utilised in areas where the potential for discharge to the marine environment exists, and ensuring input from the PU/Asset Environmental Team Leader/Environment Manager (or delegate) into the HSE Assessment during the chemical selection process in accordance with Section 5.1 of the *AzSPU Chemical and Hazardous Materials Management Procedure* ([AZSPU-HSSE-DOC-00078-2](#));
- Ensuring that the data required for the completion of the ERA, i.e. MSDS, ecotoxicity data, and other information on the composition of chemical products is available;
- Ensuring that containment measures are in place to prevent any unplanned discharges of chemicals or effluents containing chemicals to the environment.

5.0 Procedure

5.1 ERA Requirement

In general, chemical selection and management shall be undertaken in accordance with the *AzSPU Chemical and Hazardous Materials Management Procedure* ([AZSPU-HSSE-DOC-00078-2](#)) and the *Azerbaijan SPU Internal & External Material Release Reporting & Notification Procedure* ([AZSPU-HSSE-DOC-00075-2](#)).

As specified in Section 5.1.2 of the *AzSPU Chemical and Hazardous Materials Management Procedure*, in the event that

“discharge of chemicals into the environment is planned and unavoidable, persons responsible for the selection shall ensure that:

- *Products least harmful to the environment are selected; and*
- *The choice is validated by means of comprehensive Environmental Risk Assessment (ERA).”*

Further, the *AzSPU Chemical and Hazardous Materials Management Procedure* states that

“detailed environmental risk assessment shall not be normally required for chemicals used in processes that will not result in a discharge to the environment which is either planned or which can reasonably be anticipated. However, such assessment might be required when the risk of environmental damage is high due to potential spill resulting from loss of containment, e.g. during transportation of large volumes of highly toxic materials to offshore locations”.

In this instance the person(s) responsible for the selection of chemicals shall liaise the Asset Environmental Advisor for the advice on the need for the ERA

This ERA procedure shall therefore be utilised in the instance of planned discharge. An ERA shall not be normally required for chemicals used in processes that will not result in a planned or anticipated discharge to the environment. However, an ERA may be required when the risk of environmental damage is high due to potential spill resulting from loss of containment or integrity, e.g. during transportation of large volumes of highly toxic materials to offshore locations, failure of equipment, etc. In these instances an ERA may be undertaken in order to assess potential outcomes from catastrophic failure and assist in determining what additional control or containment measures may be required as part of the chemical handling/management process.

Further, an ERA may be undertaken following an identified leak or spill in order to present a case to regulators with regard appropriate levels of fines/penalties which may be levied as a result of the unapproved discharge. The requirement for this will be assessed on a case by case basis.

The Asset Environmental Advisor shall be involved in the task-based HSE risk assessments for the transfer, storage and use of hazardous materials in the process and should assess the need for an ERA on a case to case basis.

The steps required to determine whether an ERA is required are summarized in the flowchart in Appendix 1. A summary of the process is provided below.

5.1 Initial Assessment

1. Assessment of Prior Approval: Upon identification of a planned or potential discharge, the initial step is to determine whether the discharge has been the subject of prior regulatory approval (i.e., discussed in an approved ESIA or PSA/HGA, or specific approval from MENR). This shall be a two stage process requiring assessment of whether:
 - a. the chemical or substance is fully and currently approved by the relevant regulatory authorities for use and/or discharge, and
 - b. The planned or potential discharge scenario conforms to such approval (in terms of the volume, concentration, timing, receiving medium (if specified), etc).

Where an ERA is being undertaken for a potential unplanned discharge (leak or spill), estimates of volume, concentration etc should be based on a worst case scenario (e.g., major spill, catastrophic failure of containment, etc). In these instances the discharge scenario shall also consider backup containment mechanisms, spill response, etc in determining whether actual discharge will be within approved limits.

In the event that prior approval has been received covering the planned or potential discharge, no additional risk assessment is mandated.

Accountability - PU/Asset Environmental Team Leader in consultation with the **Central Environmental Team**

2. PLONOR Chemicals: for substances included in the OSPAR list of substances and preparations which are considered to Pose Little or No Risk to the Environment (PLONOR substances) and for substances which will not be discharged to the environment (i.e. surface water, groundwater, aquifers or soils) as part of planned operations, no detailed environmental assessment will be required. For these materials, the assessment shall be made based on MSDS information, and any other information on the composition and ecotoxicity of the material, to ensure that containment measures are in place to prevent any risk of the material entering the environment due to potential loss of containment either in storage, transportation, transfer or at the point of use.

In the event that a chemical is listed as a PLONOR substance, or where no planned or potential discharge to the environment is deemed likely, no additional environmental risk assessment is mandated.

Accountability - PU/Asset Environmental Team Leader

3. Requirement for Qualitative or Quantitative Risk Assessment: For chemicals which will be discharged into the environment as part of planned operations, or for chemicals which are not on the PLONOR list but for which the potential for

accidental release to the marine environment has been identified, the sequence of actions is as follows:

1. Preliminary qualitative risk assessment of the chemical based on the existing product information (refer Section 5.2).

If the qualitative risk assessment identifies the need for a further risk assessment, then:

2. Full quantitative risk assessment based on the ecotoxicity tests (refer Section 5.3).

5.2 Preliminary Qualitative Assessment

Preliminary qualitative environmental risk assessment of chemicals that will be discharged into the environment as part of the planned operations, or for which the potential for unplanned (accidental) release to the marine environment has been identified, shall be undertaken based on the information on the aquatic toxicity of the product available from Material Safety Datasheet (MSDS), existing regulatory sources, e.g. OSPAR, UK OCNS, US EPA, and review of the relevant COSHH form. The nature and sensitivity of the receiving environment shall also be taken into account. For products which the qualitative assessment indicates are of low toxic impact and low persistence, this information should be sufficient to complete an assessment.

Where a preliminary qualitative ERA is being undertaken to assess potential risks of spills/leaks, it is possible that an initial preliminary qualitative ERA may suggest that use is unacceptable. In this instance the qualitative ERA may be revised to assess whether secondary containment, spill prevention or other mitigation measures may reduce the risk to acceptable levels.

For planned discharges, approval of the conclusions of the qualitative risk assessment may be required from regulators. All consultation with regulators shall be coordinated through the Central Environmental Team under the direction of the AzSPU Environmental Manager.

In the event that the preliminary quantitative ERA indicates an unacceptable risk, a full quantitative assessment (refer Section 5.3) shall be undertaken.

Accountability - PU/Asset Environmental Team Leader. Consultation with Regulators: AzSPU Environmental Manager

5.3 Quantitative Risk Assessment

If the material is not of low toxic impact, or if insufficient information is available, then a quantitative risk assessment shall be undertaken.

While a simple quantitative risk assessment may be undertaken internally by BP if appropriate base data is available, it should be noted that for planned discharges approval will likely be required from regulators (MENR). For this reason, suitably qualified external contractors may be required to undertake aspects of the quantitative risk assessment (ie, toxicity testing, detailed dispersion modelling, or other areas where there is potential for contention with MENR).

While there may be instances where a quantitative risk assessment is undertaken for purely internal purposes, in most instances consultation with and approval from MENR will be required throughout the process. Prior to undertaking a quantitative risk assessment the requirement for MENR consultation shall be assessed and (if necessary) initiated. All consultation with MENR shall be coordinated through the **AzSPU Central Environmental Team**.

A summary flowchart of the quantitative risk assessment process is provided in Appendix 2. In general, the process to be undertaken shall be as follows:

1. *Specify Target Species*: Identify the behaviour of the chemical and determine the appropriate Caspian target species for assessment (phytoplankton, zooplankton, benthic species/sediment re-worker, fish species).
2. *Establish Toxicity Data*: Determine whether appropriate quantitative toxicity data (LC50/EC50) has been developed for the target species (*Caspian-specific Ecotoxicity Procedures: Methods Development and Implementation* (ERT 97/227) have been developed and were approved by ASCE Sept 1999 (letter reference No. 01 No 730)). Where mixtures of chemicals are anticipated for discharge, toxicity tests should ensure sufficient data to ***capture the most sensitive impacts***.

If appropriate toxicity data is not available, commission toxicity testing for the target species in accordance with **Caspian-specific Ecotoxicity Procedures** (ERT 97/227).

In commissioning and reviewing specific toxicity tests, it should be noted that there is the possibility of interference with test results as a result of chemical behavior. For example, chemicals which act as flocculants may interfere with phytoplankton tests, resulting in results that are ambiguous or misleading with regard toxicology. As a result, the test results should be subject to a “reality check” by appropriately qualified personnel to ensure that results obtained fall within expected parameters.

3. *Establish Discharge Scenario*: Determine the discharge scenario under which the toxicity data shall be assessed. A description of potential discharge scenarios is provided in Table 1.
4. *Establish Threshold Toxicity Value*: Following establishment of applicable LC50/EC50, the Predicted No-Effect Concentration (PNEC) shall be established.

PNEC is calculated by multiplying the LC50/EC50 concentration by a safety factor in order to provide a concentration at which no acute toxic effect on the target species is anticipated (where testing has been undertaken on chemical mixtures with potential impacts on a range of species, PNEC shall be based upon the most sensitive outcomes).

Where an ERA is being undertaken for the purposes of obtaining regulatory approval for a chemical discharge, or for any other purpose requiring regulatory approval or endorsement of the ERA outcome, PNEC shall be established on a case-by-case basis in consultation with regulators.

Where an ERA is undertaken for purely internal BP purposes, safety factors shall be determined on the basis of the discharge scenario, but indicative PNECs may be calculated as follows:

- a. *Continuous Discharge (discharge longer than 12 hours continuously) – assumed safety factor 100:*

$$\text{PNEC} = \frac{(\text{LC}_{50} \text{ or } \text{EC}_{50})}{100}$$

- b. *One-off or sporadic discharge (discharge less than 12 hours continuously, no more than once over seven day period) – assumed safety factor of 10*

$$\text{PNEC} = \frac{(\text{LC}_{50} \text{ or } \text{EC}_{50})}{10}$$

5. Determine Discharge Concentration: The discharge concentration is the concentration at which the chemical will enter the marine environment (i.e., before dilution due to mixing with Caspian waters).

If discharge concentration is less than the PNEC, no further assessment is required and the chemical shall be approved for use.

In the event that PNEC will be exceeded at the discharge point, additional assessment should be undertaken to establish whether impact will be too trivial to warrant undertaking detailed modeling. In general, it can be assumed that if initial turbulent mixing results in dilution to a concentration lower than the PNEC, then any impact will be trivial and no additional assessment is required.

On this basis, if the discharge concentration is less than ten times the PNEC – ie, if:

$$\text{Discharge concentration} < (\text{PNEC}) \times 10$$

then in general it can be assumed that turbulent zone mixing will achieve a reduction in concentration to below the PNEC and that consequently impact will be trivial. However, approval for discharge by MENR may still be required.

6. Dispersion Modelling: If discharge concentration is more than ten times the PNEC, dispersion modelling shall be commissioned to determine the potential area of impact (predicted extent of plume with concentration above the PNEC), addressing predicted dispersion and chemical degradation following discharge. Level of detail and complexity of the selected model will vary dependent upon:

- The purpose of the risk assessment,
- the sensitivity of the receiving environment;
- Nature or frequency of discharge;
- Volume of discharge;
- Duration of discharge;
- Composition of discharge.

7. Effluent: Where discharge is planned or likely to include more than one chemical, additional risk assessment may be required to assess impacts resulting from a combination of compounds. At a minimum, an ERA shall be undertaken as outlined above (Sections 5.1, 5.2 and 5.3) for each compound in the proposed or anticipated discharge.

Management and mitigation measures, or allowable discharge volumes / concentrations, shall be based on the chemical or compound which the ERA demonstrates to have the highest potential impact.

It should be noted that Steps 5 and 6 above (*Determination of Discharge Concentration* taking into account initial turbulent mixing; and *Dispersion Modelling*) will not be applicable where discharge does not occur directly into marine waters.

Accountability: The **PU/Asset Environmental Team Leader** shall be responsible for initiating and overseeing the quantitative ERA, including engagement of specialist contractor(s) (as required) in consultation with the **Central Environmental Team**. As noted previously, all consultation with MENR shall be coordinated through the **AzSPU Central Environmental Team**.

5.4 Applicability to Discharge Scenarios

The ERA process as described in this document is most directly applicable to planned or identified potential unplanned discharges. However, the principles can be applied quantitatively and qualitatively to a wider range of scenarios. The Asset Environmental Advisor shall determine the type of the assessment required based on the discharge scenario, as outlined in Table 1 below.

Table 1. Discharge Scenarios and Types of Assessments

Scenario	Applicability
Planned Continuous discharge	Discharge which is either permanent or which operates for periods of several days or weeks. Requires quantitative risk assessment, including dispersion modelling. Large safety factor applied to toxicity data (refer Section 5.3), to reflect the fact that extended exposure will occur in the environment.
Planned One-off discharge	Where a discharge is planned to occur only once (such as the discharge of hydrotest water). Small volume discharge is unlikely to require dispersion modelling, and a qualitative assessment will usually be sufficient. Large volume discharge would require quantitative assessment, incorporating dispersion modelling, but would use a smaller safety factor than for continuous discharge, to reflect the fact that exposure duration in the environment is limited to a short period.
Planned Intermittent discharge	May require either qualitative or quantitative assessment, depending on the volume, frequency, and location of the discharge.
Unplanned discharge, i.e. accidental spill	<ul style="list-style-type: none"> An ERA may be undertaken for circumstances where the potential for an unplanned release exists (e.g., as part of the selection process for use of a chemical on an offshore platform) in order to assess potential risks and identify management and mitigation measures which may be required. <p>Where an ERA is being undertaken to assess potential impacts from potential unplanned discharge (leak or spill),</p>

Scenario	Applicability
	<p>estimates of volume, concentration, etc should be based on a worst case scenario (e.g., major spill, catastrophic failure of containment, etc). In these instances the ERA may also consider backup containment mechanisms, spill response, etc in determining whether actual discharge will be within approved limits.</p> <p>Where potential for a significant toxic impact as a result of potential release is identified, quantitative assessment shall be required with dispersion modelling. A large safety factor should be applied in the ERA, taking into consideration the potential most severe case and damage to the environment.</p> <ul style="list-style-type: none"> ▪ In the event of actual unplanned release, an ERA may be undertaken in order to assess the potential for environmental impact arising from the release. This may be useful in order to: <ul style="list-style-type: none"> – Assist in developing a response to the release; – Presenting a case to regulators with regard appropriate levels of fines/penalties which may be levies as a result of the release. <p>In all instances of unplanned release initial response shall be in accordance with <i>The Azerbaijan SPU Spill to Sea Response Plan for Offshore Facilities</i> (AZSPU-HSSE-DOC-00018-3) or other appropriate spill response or incident investigation procedures (as applicable), and the <i>Azerbaijan SPU Internal & External Material Release Reporting & Notification Procedure</i> (AZSPU-HSSE-DOC-00075-2)</p>

5.5 Data and Resources

Data and resource requirements for the ERA process are summarized in Appendix 3.

5.6 Consultation and Approval Requirements

The **Asset Environmental Team Leader/Manager** (or delegate) shall liaise with the AzSPU Environmental Manager on any ERA requirements.

The **AzSPU Environmental Manager** (or delegate) shall advise whether any ERAs have previously been undertaken for the same chemical(s), and of any previous approvals from MENR for use of or discharges containing such chemical(s).

The **AzSPU Environmental Manager** (or delegate) shall be responsible for notifying MENR of any planned discharges, and of ERA outcomes associated with a chemical release, and for any further actions required to secure MENR approval to use any chemical.

In the event of unplanned release, initial notification shall be undertaken as per *Azerbaijan SPU Internal & External Material Release Reporting & Notification Procedure* ([AZSPU-HSSE-DOC-00075-2](#)). Subsequent consultation with regulators with regard ERA process and outcomes (as required) shall be undertaken at the direction of the **AzSPU Environmental Manager**.

Chemicals which fail the approval should not be used, and the **Asset Operations Supervisor** shall ensure that:

- The results of the risk assessment are used as a benchmark for further consultation with the suppliers;
- The discharge scenario is reviewed to achieve a satisfactory outcome;
- The options for treating the discharge to remove some or all of the product, or reducing the toxicity of the product are assessed.

5.6 Records

Records related to ERA for chemicals and hazardous materials are to be kept by the **AzSPU Environmental Manager** and shall include, but not limited to:

- List of approved chemicals;
- Completed ERA;
- Laboratory reports;
- Correspondence with MENR.

Asset Environmental Advisor shall ensure that the Site Chemical and Hazardous Materials Inventory (ref. 1) is updated to include reference to discharges, relevant ERAs and regulatory approvals.

6.0 Key Documents/Tools/References

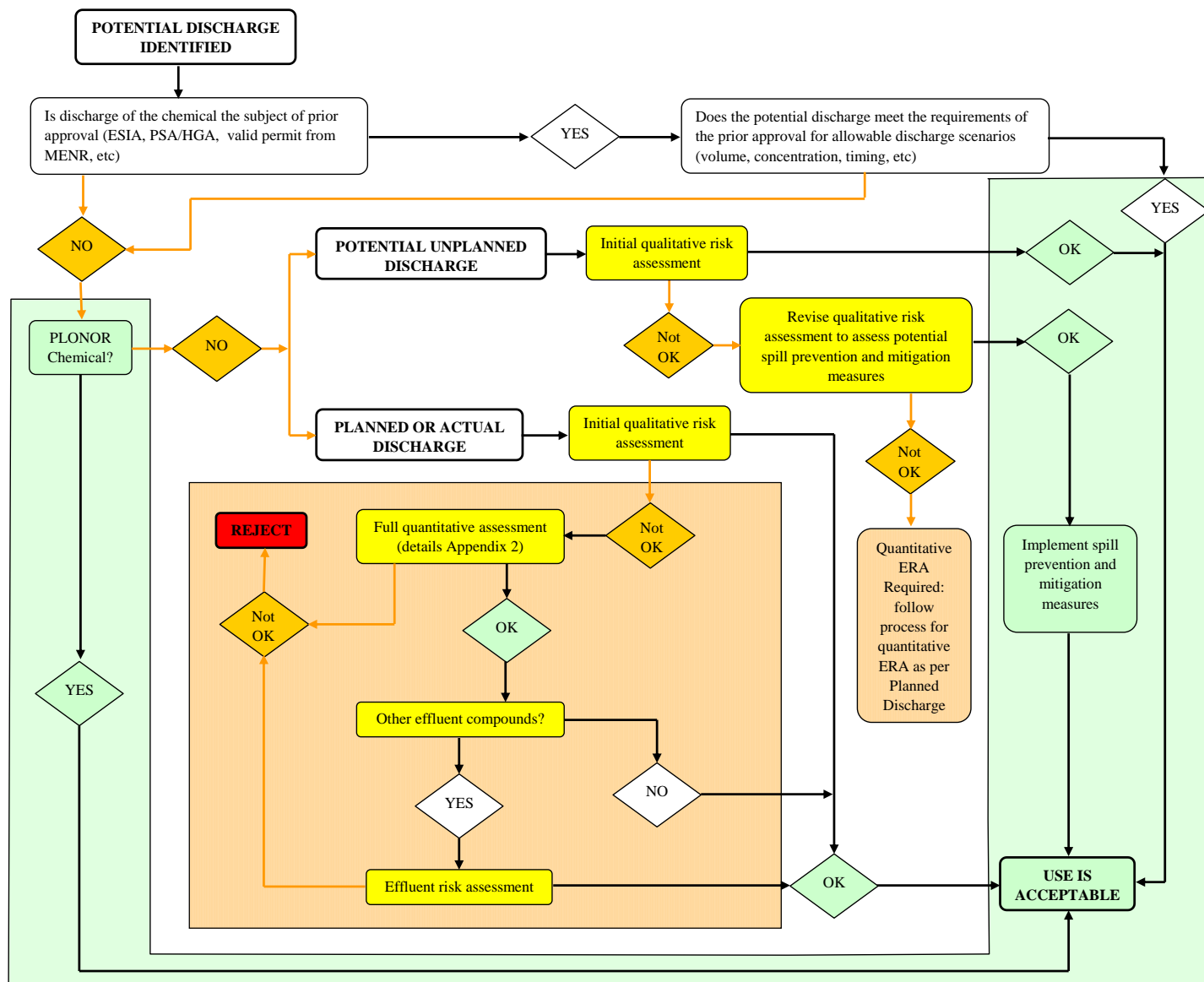
Document Title	Document Number
AzSPU Chemical and Hazardous Materials Management Procedure	AZSPU-HSSE-DOC-00078-2
Azerbaijan SPU Internal & External Material Release Reporting & Notification Procedure	AZSPU-HSSE-DOC-00075-2
The Azerbaijan SPU Spill to Sea Response Plan for Offshore Facilities	AZSPU-HSSE-DOC-00018-3
Incident Investigation and Reporting Procedure	AZSPU-HSSE-DOC-00054-2
Caspian-specific Ecotoxicity Procedures: Methods Development and Implementation	ERT 97/227

7.0 Revision/Review Log

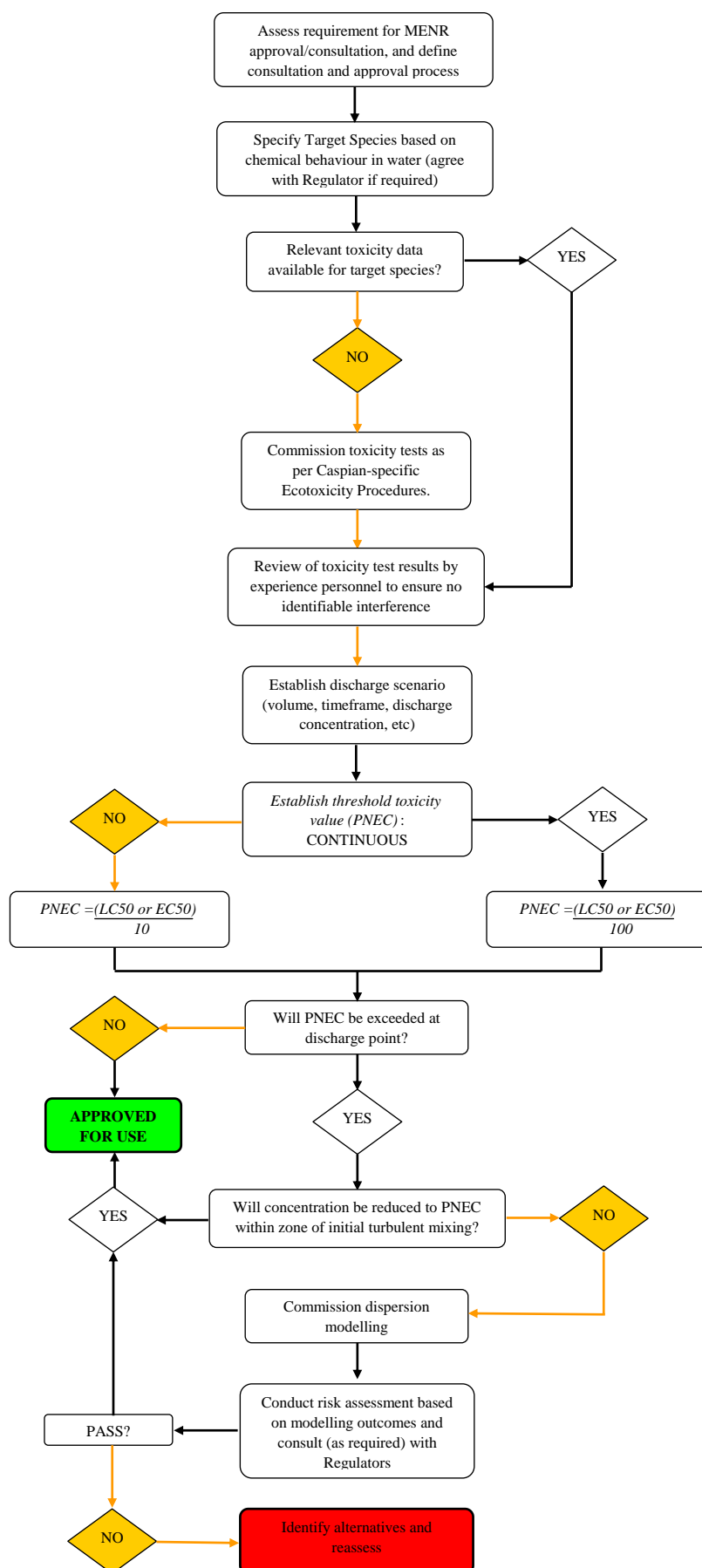
Revision Log

Revision Date	Authority	Custodian	Revision Details
31 October 2007	AzSPU Environmental Manager / Faig Askerov	Environmental Monitoring Officer / Afag Abbasova	Initial Issue,
28 January 2009	AzSPU Environmental Manager / Faig Askerov	AzSPU Senior Environmental Advisor (monitoring)/ Afag Abbasova	Document reviewed and no changes required. Revision date extended.
31 January 2010	AzSPU Environmental Manager / Faig Askerov	AzSPU Senior Environmental Advisor (monitoring)/ Afag Abbasova	Document has been review. No changes required.

Appendix 1. ERA Decision Process



Appendix 2. Overview of the Quantitative Assessment Process



Appendix 3. Data and Resource Requirements for the ERA Process

Information type	Input	Output	Required for
Risk assessment scoping	Agree risk assessment approach (e.g. qualitative or quantitative). Agree data requirements (toxicity, modelling, environmental survey)	Specification and schedule for risk assessment. Confirmation of data requirements	All cases
Discharge characterisation	Identify analytical laboratory Prepare and provide representative samples or chemical and/or effluent	Quantitative chemical description for use in designing toxicity tests and in developing dispersion modelling scope of work	In instances where the chemical composition of a discharge is complex, or where components other than the chemical in question as expected to be present
Toxicity data	Identify appropriate toxicity data, and contract laboratory to undertake testing if additional toxicity data required. Agree testing requirements and schedule Provide samples of chemical and/or effluent with full MSDS	Toxicity (LC/EC50 values) for appropriate species in the appropriate environmental compartment	All cases
Dispersion modelling	Identify modelling requirements, and modelling contractor as required . Provide detailed information on discharge scenario, and agree dispersion modelling scenario	Typically, output will consist of maps plotting the concentration or dilution contours for the chemical or effluent	Quantitative risk assessment Not required for preliminary qualitative assessments
Environmental assessment	Preliminary assessment as to need for site-specific environmental data	If environmental data are required, output will be either the provision of existing survey data, or the specification of a scope of work to commission the necessary survey(s)	Quantitative risk assessment Not required for preliminary qualitative assessments
	Identify survey contractor Provide survey specification	Environmental data for point of discharge and immediate surroundings	
Risk assessment execution	Provide toxicity and (where appropriate) modelling and environmental survey data	Completed risk assessment	Qualitative and/or quantitative risk assessment