

Onshore Petroleum Environmental Security Calculation Guideline

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Acronyms	Full form
EMP	Environment Management Plan
NT	Northern Territory
PER 2016	Petroleum (Environment) Regulations 2016

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1. Introduction

The *Petroleum Act 1984* (the **Act**) prescribes requirements for environmental securities to be in place for conduct of regulated petroleum activities in the Northern Territory. The Minister for Environment, Climate Change and Water Security (Environment Minister) may establish and approve a method for calculating an environmental security and prescribe forms in relation to an environmental security.

An environmental security is one component of financial assurance that provides the Northern Territory Government with a source of funds for costs and expenses relating to preventing or minimising environmental harm, or rehabilitating or restoring the environment, or securing compliance with an Environment Management Plan (**EMP**), in the event an interest holder is unable to do so. Use of an environmental security also ensures the entity that creates the impact also pays for the restoration of that impacted environment. Essentially, an environmental security is a form of security to secure costs and to contribute to the management of risks associated with the remediation and rehabilitation of environmental impacts resulting from activities to which an approved environment management plan relates.

The Environment Minister, as the administering authority of the environmental provisions of the Act, is responsible for deciding the environmental security for activities associated with an approved EMP. The Minister will determine the form and amount of environmental security that is provided to the Northern Territory Government by the holder of an EMP approval.

This guideline outlines the relevant environmental security legislative provisions in the Act, including:

- the calculation methodology approved by the Minister
- requirements related to submissions of securities
- processes related to information requests
- the determination-making criteria relating to an application for an environmental security
- publication requirements under the Act, and
- required forms.

2. Purpose

The purpose of this guideline is to provide information to:

- new operators submitting an environmental security for Ministerial determination for the first time
- existing interest holders who are re-submitting an environmental security for Ministerial determination
- existing interest holders who have provided security for an approved EMP under the Act and Petroleum (Environment) Regulations 2016 (**PER 2016**) prior to the commencement of the new financial assurance framework provisions
- departmental staff administering the environmental security provisions under the Act
- members of the public interested in learning more about the regulatory framework for environmental security.

All references to environmental securities in this guideline refer to the provisions of the Act only, unless otherwise stated.

3. Governing legislation and policy

Part VC Division 2 of the Act provides the general requirements related to environmental securities.

Under section 117AQ of the *Petroleum Act 1984* (the Act) the Minister for Environment, Climate Change and Water Security (Environment Minister) is required to determine the approach or methodology to be used to determine the actual amount or value to be included in or provided by a particular security. The Environment Minister is also responsible for determining (approving) the environmental security.

Under section 117AQ(3) of the Act, the Environment Minister has approved the following approach to determining environmental securities. The approach comprises four components:

1. The 'Onshore Petroleum Environmental Security Calculation Guideline', approved under section 117C(1) of the Act.
2. The 'Onshore Petroleum Environmental Security Calculator' approved under section 117J(1) of the Act.
3. The 'Approved Form: Onshore Petroleum Fees and Securities' approved under section 117J(1) of the Act.
4. The 'Annual Return: Onshore Petroleum Environmental Securities' approved under section 117J(1) of the Act.

Regulation 6(3) of the PER 2016 requires interest holders who submit an EMP for a new or revised petroleum activity to the Environment Minister for a decision to also submit an accompanying environmental security calculation for determination.

Under s117AR(1) of the Act the Environment Minister determines the appropriate security when making a decision to approve an EMP. Section 117AR(2) states the interest holder must provide the determined security (either a contribution paid to the scheme fund or surety given under the Act and in accordance with Treasurer's Directions) before commencing any activities under their approved EMP. Carrying out activities under an approved EMP without first lodging the required environmental security may result in compliance and enforcement action against the interest holder and those acting under the approved EMP.

There are also circumstances throughout the life of the EMP when the interest holder must re-submit a new environmental security calculation, for example, before the EMP expires, as directed by the Environment Minister, or when there is a change in the likely maximum disturbance which may increase the approved environmental security.

4. Calculating the environmental security

4.1. Eligible activities

Regulation 5 of the PER defines regulated activities. EMP approval holders must calculate an environmental security for all regulated activities included in the EMP.

4.2. Publishing the method

Sections 117AQ (3) and (5)(a) of the Act require that an approved method for determination of environmental securities by the Environment Minister must be published on the Agency's website, the DEPWS [Onshore Gas](#) website.

4.3. Approved calculation method

The following sections describe the method for calculating an environmental security approved by the Environment Minister under section 117AQ(3) of the Act. The environmental security must be calculated in compliance with this method.

4.3.1. Onshore Petroleum Environmental Security Calculator

The Onshore Petroleum Environmental Security Calculator forms the main component for calculating securities, providing consistent and standardised costings and activities for determination of securities. It provides for the robust assessment of securities by the regulator and ensures the responsibility for rehabilitation and remediation of regulated activities lies with industry and not the NT Government.

All petroleum exploration permit or production licence holders who have submitted an EMP for approval must use the most recent version of the Agency's Onshore Petroleum Environmental Security Calculator to calculate the required environmental security, unless the method or rate to estimate an environmental security is prescribed in an EMP condition in accordance with section 117AQ(7) of the Act.

The Onshore Petroleum Environmental Security Calculator can be downloaded from the DEPWS [Onshore Gas](#) website.

4.3.2. Approved forms

When submitting an EMP for a decision, interest holders must also submit the completed Onshore Petroleum Environmental Security Calculator and the Approved Form: Onshore Petroleum Fees and Securities, in which the total security amount for all regulated activities under the EMP must be included.

On 1 June each year after an EMP is approved, interest holders must submit a completed Annual Return: Onshore Petroleum Environmental Security that accounts for the regulated activities scheduled to occur in the forthcoming year, and the activities that had been scheduled to occur in the previous year which did not occur (but for which an environmental security has already been paid). The Environment Minister will make a determination on each year's annual security.

All approved forms can be found on the DEPWS [Onshore Gas](#) website.

4.3.3. Mandatory criteria for calculating environmental security

The total rehabilitation and remediation liability reflects the total potential costs for rehabilitating or remediating disturbed land and preventing, or minimising environmental harm, or rehabilitating or restoring the environment in relation to the activity, to achieve compliance with the EMP, the Act and the PER 2016. The total rehabilitation liability must:

- include the entire period an approved EMP will remain in force;
- be calculated based on all regulated activities described in an EMP;
- be split based on the proposed annual project schedule;
- be calculated for the total cost of rehabilitating the land and preventing, or minimising environmental harm, or rehabilitating or restoring the environment in relation to the activity;
- include the following activities and costs (contained in the Agency's Environmental Security Calculator):
 - (a) constituent tasks or activities required for rehabilitation or remediation

- (b) estimated preliminary investigation costs and intrusive investigation costs for contamination assessment that are proportionate to the risk and whether the regulated activities will produce one or more hazardous contaminants in a concentration with the potential to cause serious or material environmental harm
- (c) an amount of 10% of total costs for project management;
- (d) an amount of 20% maintenance and monitoring costs, calculated on rehabilitation cost only
- (e) an amount of 15% of the total rehabilitation liability for contingency.

4.3.4. Discretionary criteria for rehabilitation and remediation liability

Sections 117AQ(4), (5) and (7) of the Act allows for the Minister to vary, substitute or adopt different methods for calculating environmental securities for different petroleum interests. For example, when the Minister believes there may be a risk that standard criteria calculated (as described in Section 4.3.3, above) may not cover the entire security required to rehabilitate or remediate in the event the NT Government has to undertake the works. The below criteria allows for discretionary criteria to be considered in an estimation of an environmental security, as determined by the Minister:

- **a contingency amount** nominally of 5% for regulated activities that are, in the view of the Environment Minister or the Onshore Gas Committee of the NT EPA, subject to cumulative impacts and/or are in the vicinity of sensitive receptors including cultural heritage sites, which may be adjusted in accordance with a risk-based approach;¹ and
- **a residual risk amount** to manage residual risk of environmental harm, including monitoring, after remediation and rehabilitation has been undertaken, which may extend beyond the period for which the approved EMP is in force, to cover residual remediation or rehabilitation, provide for monitoring or address other relevant circumstances.

4.3.5. Environmental security exclusions

The total rehabilitation liability does not:

- need to be calculated for disturbance authorised under an EMP, if an environmental security has already been given under the same or another EMP and where there is co-location of infrastructure resulting in no change to the rehabilitation activities or disturbance; or
- include the costs of responding to an incident (e.g. a spill or accidental release to water that has downstream impacts); or
- include any security amounts associated with petroleum infrastructure regulated by the Minister for Mining and Industry.

The total rehabilitation liability must not assume that the liability can be reduced or offset by deducting the value of on-site infrastructure or other assets. This does not satisfy the NT Government's requirements for an acceptable form of environmental surety (which must be unconditional; immediately payable on demand and payable without reference to another person and available until all obligations have been performed).

² Sensitive receptors may include (but are not limited to) habitat for listed species, riparian zones, groundwater dependent ecosystems, cultural sites and groundwater bores for stock or domestic use. If you are unsure whether this is applicable to your site seek advice from the Agency.

4.3.6. Environmental security calculation assumptions

4.3.6.1. Flowback fluid return rates

Disposal of flowback fluid will be calculated on the reasonable assumption that 40% of the fluid used for hydraulic fracturing will be returned to surface.

4.3.6.2. Evaporation rates

Under section 117AQ(6) of the Act, the method to calculate securities must a) reflect market conditions for costs to remediate or rehabilitate; and b) reflect the circumstances of the Northern Territory petroleum industry.

Recognising the industry is currently in a majority exploration phase:

1. Security calculations will assume a 75% evaporation rate for wastewater relative to exploration activities.
2. If exploration wastewater evaporation rates are not achieved to 75% within a 12 month period, security for wastewater will be increased to 50% evaporation rates the following year.
3. For production EMPs, securities will assume a 50% evaporation rate for wastewater.

4.3.6.3. Mobilisation and demobilisation costs

Costs associated with mobilisation and demobilisation of equipment are calculated as a percentage of the total security costs. The percentage applied depends on the distance of the project to the nearest regional centre (Alice Springs, Katherine or Darwin). The following percentages are applied:

- <100 km: 1%
- 100-249 km: 2%
- 250-499 km: 5%
- \geq 500 km: 10%.

4.3.6.4. Minimum quantities

When making an environmental security determination the Environment Minister will take into account the likely minimum quantities of materials to be removed, including general waste, on completion of the regulated activity, taking into account the nature and scale of the activity.

5. Payment of environmental securities

Under section 117AR of the Act the interest holder must provide the determined security (either a contribution paid to the scheme fund or surety given under the Act and in accordance with Treasurer's Directions).

Whilst the determination for 100% of the security must be made by the Environment Minister at the time of the EMP approval, the environmental security may be paid annually based on:

- the planned regulated activities from the date of approval to 30 June in the first year, and
- the planned regulated activities for the financial year in each subsequent year.

Upon approval of the environmental security an invoice will be issued by the Department of Infrastructure, Tourism and Trade for payment of the environmental security for the first period to 30 June, and based on the calculations in the Onshore Petroleum Environmental Security Calculator submitted with the EMP.

Payment of the environmental security is to be made by 31 July of each year and prior to commencement of regulated activities not already covered by an environmental security.