Policy Framework for Biodiversity Offsets for Upland Swamps and Associated Threatened Species

IMPACTED BY LONGWALL MINE SUBSIDENCE

MAY 2015

INTRODUCTION

The calculation and provision of offsets for subsidence impacts of longwall coal mining on upland swamps and associated threatened species is being aligned with the framework outlined in the *NSW Biodiversity Offsets Policy for Major Projects* (Offsets Policy).

The following policy framework will be applied in implementing the Offsets Policy in respect of subsidence impacts on upland swamps and associated threatened species.

Where 'nil' or 'negligible' environmental consequences are predicted

Where 'nil' or 'negligible' environmental consequences for upland swamps and threatened species are predicted (supported by evidence), no up-front offset is required.

'Nil' or 'negligible' environmental consequences is considered to mean that subsidence will not result in changes to shallow groundwater regimes supporting an upland swamp community through fracturing of the bedrock base or controlling rockbar of a swamp, tilts of surface strata or any other subsidence-related impact.

Upland swamps that are predicted to experience 'nil' or 'negligible' subsidence will have a relevant (i.e. 'negligible environmental consequences') performance measure included as a condition of consent.

Monitoring is required to measure compliance with this performance measure, with a focus on shallow groundwater monitoring in swamps. If monitoring shows that mining has significantly impacted the shallow groundwater aquifer in a swamp and that impact has stabilised for a period of 12 months, then an offset must be identified and secured within 6 months of the completion of that period.

Where predictions exceed 'nil' or 'negligible' environmental consequences

If it is predicted that upland swamps are likely to experience greater than negligible environmental consequences, then an offset will be required as a condition of consent.

Calculating the 'maximum predicted offset liability'

Offsets should be calculated using the Framework for Biodiversity Assessment (FBA) in accordance with the Offsets Policy.

The offset liability should be assessed as a potential maximum (i.e. worst case scenario), given uncertainty in the prediction of subsidence and consequent environmental outcomes for upland swamps.

A 'maximum predicted offset liability' must be calculated for the total area of upland swamps predicted to be subject to greater than negligible environmental consequences. This must be calculated as the ecosystem credits equivalent to the predicted loss of the upland swamp vegetation types present in those swamps. Where relevant, species credits for threatened species known or predicted to occur within the swamps must also be calculated.

If it is predicted (supported by evidence) that a partial impact to an upland swamp is likely, then only the portion of the swamp likely to experience greater than negligible impacts should be included in the offset calculation.

Securing an appropriate offset for predicted impacts

The applicant must prepare a Biodiversity Offset Strategy that demonstrates how it will fully meet the requirements of its 'maximum predicted offset liability' for the required ecosystem and species credits, applying the rules of the Offsets Policy. If the proponent demonstrates that a like-for-like offset cannot be secured, other options under the 'variation rules' or supplementary measures may be considered.

The applicant must demonstrate how it will legally secure the proposed offsets – e.g. how it will purchase the relevant offset site, purchase the biodiversity credits from a landholder or arrange for relevant supplementary measures to be carried out. Suitable means of demonstrating this include ownership of the land or a long-term option to purchase, or provision of an adequate security bond or deposit.

Prior to approval of an Extraction Plan, the applicant must demonstrate that it can satisfy its 'maximum predicted offset liability' for all mining subject to that plan. Conditions of development consent may also require that a suitable 'bank' of offsets is established early in the life of the development, and then maintained as appropriate.

The offsets identified in the Biodiversity Offset Strategy are only required to be secured or credits retired once the outcomes of mining are confirmed through agreed monitoring.

Performance measures

Performance measures may be included within conditions of consent where reasonable predictions can be made and there is a high probability that the criteria are achievable.

In particular, where there is a strong likelihood that an upland swamp will experience nil or negligible subsidence, then a relevant performance measure (i.e. 'negligible environmental consequences') will be included as a condition of consent.

Compliance action may be taken for breach of performance measures.

Monitoring the environmental consequences of mining on upland swamps and associated threatened species

The primary focus of monitoring must be the piezometric measurement of the effect of mine subsidence on the shallow groundwater aquifer that supports the upland swamp vegetation communities and associated threatened species.

A minimum of two years pre-mining piezometric data should be used to establish the baseline shallow groundwater regime in every swamp within 400 m of longwall mining. Where less than two years of pre-mining data is available, then a more conservative assessment of the sensitivity of the feature to potential impacts must be applied.

It is generally accepted that impacts on shallow groundwater regimes are the most immediately definable impact on an upland swamp ecosystem and the most appropriate 'early indicator' of long-term environmental consequences for the features and characteristics (including the existence) of the swamp. Consequently, if monitoring demonstrates that the shallow groundwater aquifer is impacted, then there is a presumption of long-term impacts on the swamp.

A robust Before - After - Control - Impact (BACI) design must be used for the monitoring program to distinguish impacts of mining from natural seasonal or climatic variation. The monitoring program should also seek to identify any positive or negative trends in groundwater and populations of threatened species, particularly in the two years before and after mining.

Monitoring of secondary environmental consequences (such as loss of or change in vegetation community type, impacts on identified threatened species, impacts on soil stability or erosion) should also be undertaken to inform the timing and extent of expression of these impacts following changes to the shallow groundwater aquifer.

Consideration of actual and predicted impacts

If monitoring demonstrates that predicted groundwater impacts occur and that impact has stabilised for a period of 12 months, then the applicant must meet the full calculated value of the offset for that swamp.

If monitoring demonstrates that a predicted groundwater impact has not occurred within 12 months of completion of all mining within 400 m of a swamp, or has occurred in only part of that swamp, then the applicant may make application to the Secretary to have the full offset associated with the swamp, or part of that offset, deducted from the projects overall 'maximum predicted offset liability'.

If monitoring shows that mining has impacted the shallow groundwater aquifer more than predicted and that impact has stabilised for a period of 12 months, then an offset is to be identified and secured within 6 months of the completion of that period.

Any application for a reduction in the maximum predicted offset liability must be supported by monitoring data and must be independently peer reviewed by a reviewer agreed by both DPE and OEH. Any such application must be made within 5 years of the completion of mining within 400m of the upland swamp.

The applicant may, at any time, acquit the full value of the offset. If this occurs prior to the undermining of any swamps, the applicant may negotiate with the approval authority about the extent of ongoing monitoring required.

Re-crediting of retired/deposited offsets

If ongoing monitoring of shallow groundwater aquifers beyond the time when an offset is secured demonstrates that the aquifer has returned to a natural regime (as described by the two year, pre-mining baseline), then the applicant may apply to the approval authority for a reduction in a future offset liability under this framework. Any such application must be made within 5 years of the completion of mining within 400 m of the upland swamp.

If less than two years baseline data on the shallow groundwater regime was collected for any upland swamp, the applicant cannot apply at a later date for a reduction in future offset liability.

Any application for a reduction in future offset liability must be supported by monitoring data and must be independently peer reviewed by a reviewer agreed by both DPE and OEH.

Application

The framework will be applied to all new applications for development consent for longwall mining that may cause subsidence impacts on upland swamps.

The framework will be applied, where reasonable and feasible, to mines that have applications on foot for longwall mining that may cause subsidence impacts on upland swamps.

Where mines have existing development consent for longwall mining that may cause subsidence impacts on upland swamps, the framework will be applied to all new Extraction Plans approved following 31 October 2015.