



Keepit Dam Upgrade

*Annual Compliance Report
(EPBC 2006/3186 – Condition 6)*

*Prepared for:
Department of Environment*



April 2019

Report Distribution

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1 Introduction

The purpose of the upgrade of Keepit Dam is to improve dam safety to the levels required by the NSW Dams Safety Committee which was approved under section 130(1) and 133 of the *Environment Protection Biodiversity Conservation Act 1999*.

This annual report provided by WaterNSW is for the 2018 reporting period and in compliance with Condition 6 of the Australian Government Approval EPBC 2006/3186. The report addresses WaterNSW compliance with the conditions of approval, including measures taken to continue covenant compliance for Offset Area Property 7.

1.1 Background

Keepit Dam is located between the townships of Gunnedah and Tamworth in the north-west of NSW. The dam is situated on the Namoi River, 13 kilometres upstream of the Peel River confluence.

WaterNSW is upgrading Keepit Dam to meet the safety standards set by the NSW Dam Safety Committee. The NSW Dam Safety Committee requires that Keepit Dam be upgraded to withstand extreme natural events, including earthquakes and extreme floods.

The main aspects of the project include:

- Ancillary works including construction of access roads, saddle dams, and modifications and upgrades to State Park facilities
- Construction of a new fuse plug auxiliary spillway on the right abutment of Keepit Dam
- Modification to the existing subsidiary dam wall to accommodate a new fuse plug spillway and raising of the remainder of the embankment
- Relocation of Electrical equipment from the dam wall
- Post tensioning of concrete section of the dam
- Raising of the main dam wall including abutments and fuse plugs
- Scour protection of the main wall downstream embankment
- Construction of a multi-level offtake

1.2 Construction Status

Table 1: Construction status

Work-package	Main works	Start	Completion	Annual Reporting
1	<ul style="list-style-type: none"> • Construction of a new fuse plug auxiliary spillway on the right abutment of Keepit Dam • Modification to the existing subsidiary dam wall to accommodate a new fuse plug spillway and raising of the remainder of the embankment • Modification to the existing subsidiary dam wall to accommodate a new fuse plug spillway and raising of the remainder of the embankment • Ancillary works including construction of access roads, saddle dams, and modifications and upgrades to State Park facilities 	September 2009	July 2013	Annual Report 2014, (ARK D2016/15797), submitted 6/3/2014 2014 (ARK D2016/15031)
2	<ul style="list-style-type: none"> • Relocation of Electrical equipment from the dam wall • Post tensioning of concrete section of the dam • Raising of the main dam wall including abutments and fuse plugs • Scour protection of the main wall downstream embankment 	November 2013 2017/2019 On Hold On Hold	January 2015 April 2019	Annual Compliance Report 2014 - (2013 reporting period) - (ARK-D2016/15798), submitted 17/3/15 (ARK-Doc15/7466) Annual Compliance Report 2015 - (2014 reporting period) - (ARK-D2016/121198) submitted 7/3/2016 (ARK-D2016/21570),

				<p>Annual Compliance Report 2016 - (2015 reporting period) - (ARK-D2017/10816) Submitted 10/3/2017(ARK D2017/17458)</p> <p>Annual Compliance Report 2017 - (2016 reporting period) - (ARK-D2018/21387 Submitted 19/3/2017 (ARK-2018/21373)</p> <p>Annual Compliance Report 2018 - (2017 reporting period) - (ARK-D2018/21387) Submitted 19/3/2018 (ARK-D2018/14704)</p> <p>Annual Compliance Report 2019 - (2018 reporting period) - (ARKD2019/14701) Submitted 23/4/2019 (ARK-D2019/14704)</p>
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Work Package 2:

Post Tensioning of the concrete gravity section of the main wall commenced in April 2017 and was forecasted to be completed by June 2019. Additional work has been identified which will extend the completion date to March 2020

The work involves:

- demolition and concrete surface preparation works for dam monolith blocks comprising the left abutment non-overflow blocks, overflow sections and right abutment non-overflow blocks and downstream face of the spillway piers
- drilling of 47 vertical holes for cable anchors through the existing concrete of left abutment non-overflow blocks, overflow sections and right abutment non-overflow blocks and into the foundation rock and completion of all waterproofing required as a prerequisite to installation of the cable anchor components
- drilling of 20 inclined holes for cable anchors through existing concrete of the spillway piers

The remaining construction works in Work Package 2 will be delivered in stages as per Table 1: Construction Status. The main works within Work Package 2 will not impact areas established and managed under the Biodiversity Offset Management Plan (BOMP). No clearing or disturbance of native vegetation in other areas outside of the Biodiversity Offsets will be undertaken. Conditions of approved CEMP will be adhered during all phases of construction.

Raising of the main dam wall including abutments and fuse plugs and scour protection of the main wall downstream embankment are currently being reviewed and on hold. This is due to new hydrology criteria for the Keepit Dam catchment being provided by the Bureau of Meteorology which may alter the existing design for the dam raising. The Department of Environment will be notified when further information is received.

2 EPBC 2006/3186 Compliance 2018 Status

Table 2: Compliance Status

CONDITION	COMPLIANCE SUMMARY	2018 STATUS
<p>1. The person taking the action must undertake the action in accordance with the conditions of this approval and as described in the referral documentation date 29 November 2006. Where the referral documentation and these conditions are contradictory, these conditions will prevail to the extent of the contradiction.</p>	<p>No contradictions noted, WNSW have been complying with the conditions of approval.</p>	<p>Ongoing</p>
<p>2. The person taking the action must develop a <i>Keepit Dam White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland</i> Management Plan to protect and enhance offset areas described in the report <i>Keepit Dam Upgrade Biodiversity Offsets Proposed Offsets Areas</i> dated 23 October 2009. The management Plan must specify:</p> <ul style="list-style-type: none"> a. The purpose of the Plan including desired outcomes of implementing the plan; b. The short (within 12 months from the date of this approval), medium (within three years from the date of this approval) and long term (within five years from the date of this approval) measures that would be employed to implement the plan. c. Strategies to create and enhance habitat linkages with surrounding woodland remnants. d. Details of how the person taking the action will provide for the long term security of the offset areas, including the placement of covenants on the land titles for offset areas; e. Procedures to be implemented for: <ul style="list-style-type: none"> i. Managing the remnant vegetation and habitat on site; ii. Managing impacts on EPBC listed threatened fauna; iii. Protecting areas outside the disturbance areas; 	<p>The <i>Keepit Dam Upgrade Biodiversity Offsets Management Plan (BOMP)</i> (ARK DOC11/26197) was developed and approved by the Department of Water, Heritage and the Arts on the 4th of June 2010 (DEWHA reference 2010/01041 ARK D2016/15102).</p> <p>Actions required to achieve long term security of the offset areas were completed within 12 months of approval and copies of the covenants were submitted to the Department with the 2012 Annual Report for 2011 period (ARK DOC12/14571)</p> <p>The BOMP implementation was completed at the end of 2015.</p>	<p>Complete</p>

CONDITION	COMPLIANCE SUMMARY	2018 STATUS
<p>iv. Controlling weeds and feral pests, and</p> <p>v. Controlling access.</p> <p>f. Performance and completion criteria against which the level of performance and point at which completion of the implementation Plan can be determined.</p> <p>g. A description of how performance of the implementation of the Plan must be monitored over time against the objectives and completion criteria;</p> <p>h. A description of the potential risks to rehabilitation in the offset areas, and a description of the contingency measures that must be implemented to mitigate these risks; and</p> <p>i. Details of who is responsible for monitoring, reviewing, implementing and funding the Plan.</p> <p>The <i>Keepit Dam White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland Management Plan</i> must be submitted to the Minister for approval within 4 months of this approval. The actions required to achieve the long term security of the offset areas (including the placement of covenants on the land titles for the offset areas) must be completed within 12 months of this approval.</p>		
<p>3. The person taking the action must ensure the <i>White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland Management Plan</i>:</p> <p>a. provides monitoring of the impacts of mineral exploration and extraction on the viability of the <i>White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland</i> ecological community in the offset areas.</p> <p>b. identifies measures of viability of the <i>White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland</i> ecological community in the offset areas. An exceedance of these thresholds will trigger a requirement for the person proposing to take the action to put in place management actions to address reduction in viability;</p> <p>c. identifies critical thresholds which once exceeded, will trigger a requirement for the person proposing to source an additional area</p>	<p>No mineral exploration or extraction activity is being undertaken during the course of the Keepit Dam Upgrade project.</p> <p>The <i>Keepit Dam Upgrade Biodiversity Offsets Management Plan (BOMP)</i> (ARK DOC11/26197) was developed and approved by the Department of Water, Heritage and the Arts on the 4th of June 2010 (DEWHA reference 2010/01041 ARK 2016/15102).</p>	<p>Complete</p>

CONDITION	COMPLIANCE SUMMARY	2018 STATUS
(approved in writing by the Department) containing <i>White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland</i> ecological community to compensate for the impact that mineral exploration and extraction will have on this ecological community.	The BOMP implementation was completed at the end of 2015.	
<p>4. The person taking the action must develop a Construction Environmental Management Plan to specify environmental management practices and procedures to be followed during construction of the project. The Management Plan must specify the procedures for:</p> <ul style="list-style-type: none"> a. placing sediment fences or bunding prevent sediment entering Lake Keepit and the Namoi and Peel Rivers; b. using a floating silt curtain to prevent the dispersal of sediment in Lake Keepit; c. post construction revegetation of disturbed areas to prevent ongoing erosion and runoff into Lake Keepit and the Namoi and Peel Rivers; and d. undertaking work during low rainfall and low river periods. <p>The construction Environmental Management Plan must be submitted to the Minister for approval within 3 months of the date of this approval. The approved Plan must be implemented.</p>	<p>The Keepit Dam Upgrade CEMP (ARK DOC10/1489) was approved by Department of Planning on the 22nd of February 2010 (ARK DOC10/1229) prior to commencement of construction activities and Department of Environment on the 10th of January 2010 (ARK DOC12/21977)</p> <p>Work Package 2 will not impact biodiversity areas, WaterNSW requested, approval for no further submission of CEMPs to the Department with Keepit Dam Upgrade - EPBC 2006_3186 Annual Report for Year 2016 Ver 0 1 (ARK D2016/121198). Note, ongoing approval obligations under state environmental planning approvals for Keepit Dam Upgrade CEMP will continue.</p>	Complete
5. Within ten calendar days of commencement of the works, the person taking the action must inform the Department in writing of the actual date of commencement.	<p>The Department was notified on the 2nd of February 2010 (ARK DOC12/21977) prior to commencement of work.</p> <p>The Department has been notified of the commencement of the post tensioning with letter dated 10th</p>	Complete

CONDITION	COMPLIANCE SUMMARY	2018 STATUS
	March 2017(ARKD2017/17458).	
<p>6. Within three months of every anniversary of the commencement of works, the person taking the action must submit to the Department an annual report addressing compliance with the conditions of this approval, including measures taken to implement the management plan required by this approval. Annual reports must be provided until the Minister is satisfied and the Department advises in writing that the proponent has complied with all conditions of the approval.</p>	<p>Annual EPBC Reports are due by 26th April. Reports have been provided for reporting periods: Compliance period 2011-2012 Annual Report Letter Dated 15th February 2012 (ARK Letter DOC12/14592, Report DOC12/14571).</p> <p>Compliance period 2012; 2013 Annual Report Letter Dated 29th April 2014 (ARK Letter DOC13/13437, Report DOC13/12430).</p> <p>Compliance period 2013; 2014 Annual Report Letter Dated 6th March 2014 (Letter ARK D2016/15031, Report D2016/15797).</p> <p>Compliance period 2014; 2015 Annual Report Letter Dated 17th March 2015 (Letter ARK DOC15/7466, Report D2016/15798)</p> <p>Compliance period 2015; 2016 Annual Report Letter Dated 7th March 2016(Letter ARK D2016/21570, Report D2016/121198)</p>	Ongoing

CONDITION	COMPLIANCE SUMMARY	2018 STATUS
	<p>Compliance period 2016; 2017 Annual Report letter Dated 10th March 2017 (Letter ARK D2017/17458, Report D2017/10816) demonstrates compliance for the 2016 period</p> <p>Compliance period 2017; 2018 Annual Report letter Dated 19th March 2018 (Letter ARK D2018/21373, Report D2018/21387) demonstrates compliance for the 2017 period</p> <p>Compliance period 2018; 2019 Annual Report letter Dated 23rd April 2019 (Letter ARK D2019/14704, Report D2019/14701) demonstrates compliance for the 2018 period</p>	
<p>7. If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans, reports or strategies referred to in condition numbers 2,3 and 4 the person taking the action must submit for the Minister's approval a revised version of any such plan, report or strategy. If the Minister approves such a revised plan, report or strategy, that plan, report or strategy must be implemented in place of the plan, report or strategy originally approved.</p>	<p>Current activities are in accordance with the plans referred to in condition numbers 2, 3 and 4.</p>	<p>Ongoing</p>
<p>8. If the Minister believes that it is necessary or desirable for the better protection of listed species and communities to do so, the Minister may request that the person taking the action make specified revisions to the plans, reports or strategies approved pursuant to condition numbers 2, 3 and 4 and submit the revised plan, report or strategy for the Ministers approval. The person taking the action must comply with any such</p>	<p>No current request for action has been made.</p>	<p>Ongoing</p>

CONDITION	COMPLIANCE SUMMARY	2018 STATUS
request. The revised approved plan, report or strategy must be implemented.		
9. If at any time after 5 years from the date of this approval, the person taking the action has not commenced construction of the action, then the person taking the action must not commence construction without the written consent of the Minister.	Construction of Work Package 1 commenced in 2010 with letter of notification dated 10 th of January 2010 (ARK DOC12/27529) being forwarded to relevant agencies.	Complete
10. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the above conditions of approval, including measures taken to implement management plans required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Departments website. The results of audits may also be publicised through the general media.	All Keepit Dam Upgrade records are managed in the WaterNSW Information Management System (ARK – formerly TRIM) which is an Electronic Document and Records Management System (eDRMS). Routine maintenance activities have been programmed into the WaterNSW Maintenance Management System (Smartasset KETD-10-04-01-02). All reporting and records for year 2016 have been stored in ARK (STW112375 , STW090663), Smartasset (KETD-10-04-01-02) and where relevant submitted as part of this report.	Ongoing

3 Biodiversity Offset Management Plan (BOMP)

3.1 Status of BOMP

As required by Condition 2 of The Approval Decision dated 10th January 2010, the Biodiversity Offsets Management Plan (BOMP) action plan was required to be implemented by WaterNSW. The implementation Schedule (Section 6 of The Plan) was adopted as the basis for tracking and reporting progress.

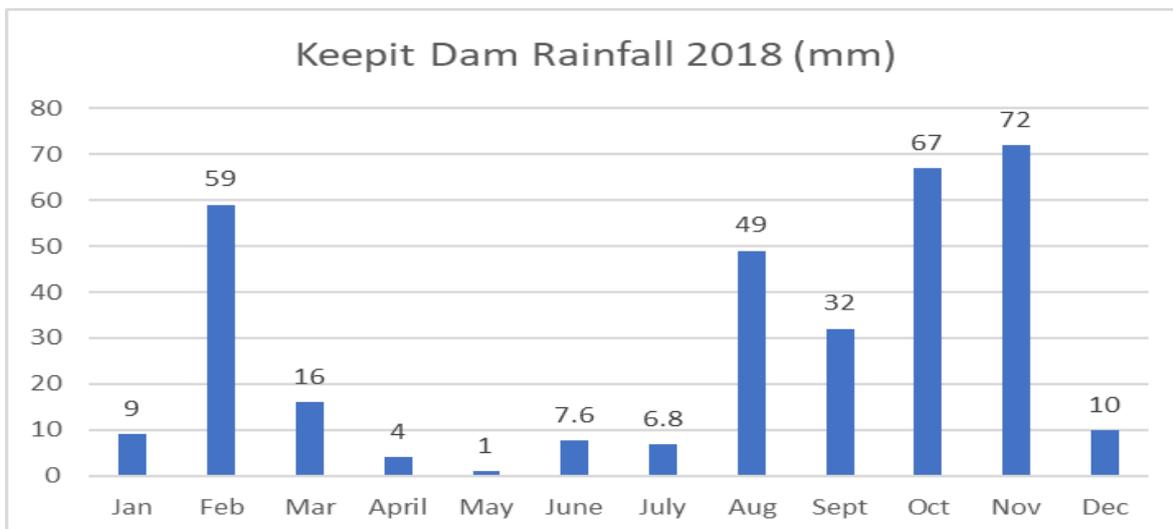
As previously advised to the Department of Environment with Annual EPBC Report for Compliance period 2015, WaterNSW will only be reporting on Offset Area Property 7. Offset Areas State Park East and State Park West are the responsibility of NSW Department of Primary Industries Lands (Report - ARK D2016/ 121198) Letter Dated 7th March 2016(Letter - ARK D2016/21570).

The Keepit Dam area recorded 333mm of precipitation for the 2018 calendar year which is 59% of average 562mm(see Table 3 for rainfall data). Unfortunately the rain provided little benefit for growth at any time of the 2018 year. Climate data can be found on the following links: <http://www.bom.gov.au/climate/current/annual/aus/>
<http://www.bom.gov.au/climate/current/annual/nsw/summary.shtml>
<http://www.bom.gov.au/state-of-the-climate/>
<https://climatebysurly.com/>

Although the offset area has been experiencing below average and erratic rainfall for the previous 2 years, the management measures undertaken prior to the drought including native tree planting and native grass seeding should allow the area to recover well when the drought finally breaks. Ongoing compliance with covenants will also assist with recovery.

No additional tree planting or native grass seed distribution was undertaken during the 2018 monitoring period due to adverse site conditions.

Table 3 – Keepit Dam Rainfall 2018



3.2 Biodiversity Offset Ongoing Compliance

The biodiversity covenant conditions are programmed into Smartasset (Section KETD-10-04-01-02) to ensure ongoing compliance.

An annual internal audit is undertaken by the WaterNSW Environmental Services Group to ensure that all requirements are being met.

4. References

State Water Corporation (May 2010). *Keepit Dam Upgrade Biodiversity Offsets Management Plan*. Prepared by Parsons Brinckerhoff Australia Pty Ltd. (ARK DOC11/26197)