

Tarrawonga Coal Mine Modification 9 – Waste Tyre Disposal

State Significant Development Modification Assessment (11_0047 MOD 9)

Planning Secretary's Assessment Report

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Cover image: Tarrawonga Coal Mine (Source: Whitehaven)

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1 Introduction

1.1 Background

The Tarrawonga Coal Mine is an open cut coal mine located approximately 42 kilometres (km) north-west of Gunnedah in the Narrabri local government area (see **Figure 1**).

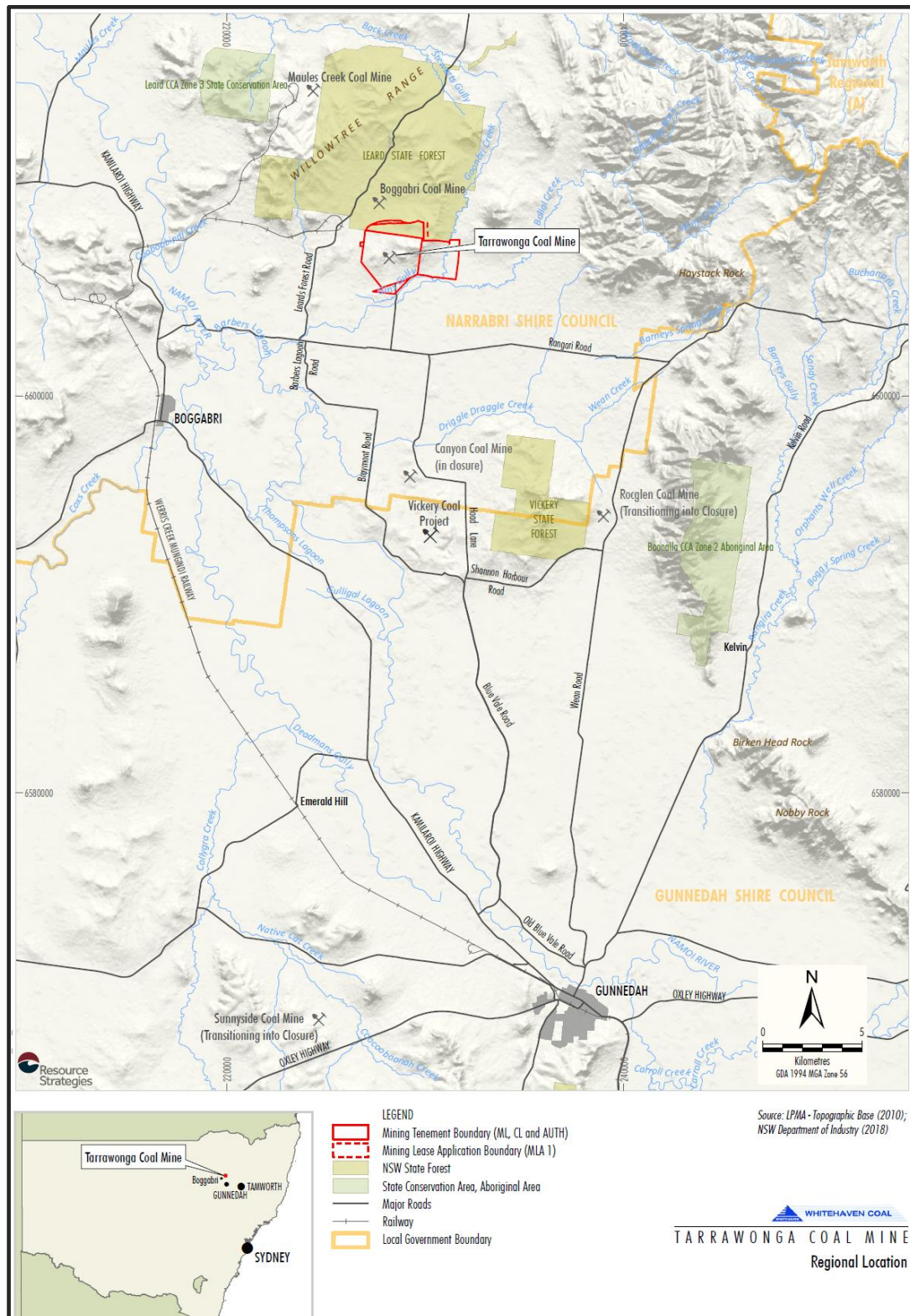


Figure 1 | Tarrawonga Coal Mine Regional Context

The mine has been in operation since 2006 and is owned and operated by Tarrawonga Coal Pty Ltd, a wholly owned subsidiary of Whitehaven Coal Limited (Whitehaven).

The current project approval for the Tarrawonga mine was granted by the Planning Assessment Commission (now the Independent Planning Commission of NSW) on 22 January 2013, and allows Whitehaven to extract up to 3 million tonnes per annum (Mtpa) of Run of Mine (ROM) coal by open cut methods until December 2030.

Whitehaven is seeking a modification to the project approval to allow the disposal of oversized heavy plant tyres that have reached their end-of-life, within the overburden emplacement areas at the mine. Whitehaven has been storing and when necessary, periodically burying these waste tyres in the mine's overburden emplacement areas since the commencement of operations. The mine currently has around 187 tyres stockpiled and awaiting disposal. Any previous tyre disposal activities have been undertaken in accordance with the mine's Mining Operations Plan (MOP), approved by the Resources Regulator.

As the lead environmental regulator in NSW, the Environment Protection Authority (EPA) manages the transport and disposal of waste and works closely with industry to find sustainable solutions to minimise the amount of waste going to landfill. The EPA is currently working with the mining industry to improve waste management practices, with a focus on the management of heavy plant waste tyres. The Department is actively working with the EPA in its initiatives to improve waste management and options for recycling of these tyres across the mining sector.

There is no clear Government policy on the disposal of waste tyres in spoil emplacements in NSW and the onsite disposal of heavy plant waste tyres is common practice in the mining and agricultural sectors. This is due to the size and construction of the tyres and the remoteness of the operations, which makes it difficult and expensive to transport, handle and process. Further, tyre recycling facilities are generally designed for smaller tyres from passenger vehicles, and landfills have limited capacity.

The existing project approval includes a range of conditions related to the general management of waste, including requirements to ensure waste generated by the mine is minimised and appropriately stored, handled and disposed of. However, the conditions do not explicitly allow or disallow the onsite disposal of waste tyres. Consequently, Whitehaven is seeking a modification to clarify the project approval conditions and expressly include the onsite storage and disposal of waste tyres at the mine.

This was in response to a request from the EPA to clarify whether the project approval included approval for the management and disposal of waste tyres onsite as it was seeking to vary the conditions of the Environment Protection Licence for the mine.

2 Proposed Modification

2.1 Scope of Modification

Whitehaven is seeking to modify its project approval for the mine under Section 4.55(1A) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The modification application is seeking approval to allow the onsite disposal of end-of-life heavy plant tyres, otherwise known as off-the-road (OTR) tyres, which are generally used in mining and heavy industrial applications. End-of-life, or 'waste' OTR tyres that can no longer be utilised at the mine would be buried within the mine's overburden emplacement areas, subject to appropriate environmental controls.

The proposed modification would not include the disposal of road tyres typically used by trucks and/or passenger vehicles on registered roads.

A full description of the proposed modification is provided in Whitehaven's Modification Report (see **Appendix A**).

2.2 Justification for the Modification

Whitehaven advises that it has reviewed all available waste management and recycling technologies and that there are currently no feasible alternatives for reusing OTR tyres, and that the costs to transport the tyres to existing recycling or reprocessing facilities would be prohibitive.

Whitehaven's review coincides with the findings of the report commissioned by Tyre Stewardship Australia titled *Used Tyre Supply Chain and Fate Analysis* dated June 2020, which estimates only 1% domestic recovery of all used OTR tyres in Australia¹. This amount is largely attributed to the reuse of these tyres in civil engineering applications and a small amount recovered via pyrolysis or for crumb, granule and buffing purposes.

Whitehaven rationalises the onsite disposal of waste OTR tyres as it would allow the mine to continue to operate under its existing approval and ensure the ongoing employment of its mine staff. Whitehaven would also continue to explore any other feasible recycling and/or recovery options over the life of the mine.

3 Statutory Context

3.1 Transition to State Significant Development

The Tarrawonga Coal Mine was approved under the former Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in January 2013.

Under clause 6 of Schedule 2 of the *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017*, the project was transitioned to State Significant Development (SSD) by order, which took effect by publication in the NSW Government Gazette on 17 August 2018.

3.2 Scope of Modification

The modification application and Modification Report were lodged under Section 4.55(1A) of the EP&A Act. The Department has reviewed the scope of the modification and considers that:

- the proposed changes are minor in comparison to the approved project;
- there would be no change to the approved mine life, mining methods or hours of operation;
- the impacts of the development as modified would be similar to the impacts of the approved project (see Section 5), and
- the development would remain substantially the same development as originally approved.

Therefore, the Department is satisfied the proposed modification is within the scope of section 4.55(1A) of the EP&A Act, considers that it would involve minimal environmental impact and does not constitute a new development application. Accordingly, the Department considers that the application should be assessed and determined under section 4.55(1A) of the Act.

The Department also considered:

- advice provided concerning the proposed modification (see Section 4); and
- the relevant matters in Section 4.15(1) of the EP&A Act, including:
 - the provisions of relevant environmental planning instruments (see Section 3.4);
 - the likely impacts of the proposed modification, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality (see Section 5);
 - the public interest, including any relevant objects of the EP&A Act (see Section 3.5); and

¹ For used OTR tyres, an estimated 1% is recovered domestically, 10% recovered via export and 89% not recovered – see section 7 of the Tyre Stewardship Australia report *Used Tyre Supply Chain and Fate Analysis* (June 2020).

<https://www.tyrestewardship.org.au/wp-content/uploads/2020/06/Used-Tyres-Supply-Chain-and-Fate-Analysis-1.pdf>

- the reasons given by the approval authority for the grant of the original approval (see Section 3.4).

3.3 Consent Authority

The Minister for Planning and Public Spaces (Minister) is the consent authority for the modification application under Section 4.5(a) of the EP&A Act. However, under the Minister's delegation of the 26 April 2021, the Director Resource Assessments, may determine the application.

3.4 Mandatory Matters for Consideration

In accordance with Section 4.55(3) and Section 4.15(1) of the EP&A Act, a consent authority must consider the following matters, to the extent they are relevant, when considering the merits of the application:

- environmental planning instruments, draft instruments, and any planning agreements;
- the EP&A Regulation;
- likely impacts of the modification application, including environmental impacts on both the natural and built environments, and social and economic impacts;
- suitability of the site;
- any submissions;
- the public interest; and
- the reasons for granting approval for the original application.

The Department has considered all these matters carefully and summarised the findings of this below and in Sections 4 and 5 of this report.

Environmental Planning Instruments

Several environmental planning instruments apply to the modification, including:

- State Environmental Planning Policy (Mining Petroleum Production and Extractive Industries) 2007;
- State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP);
- State Environmental Planning Policy 33 (SEPP No. 33) – Hazardous and Offensive Development;
- State Environmental Planning Policy 44 (SEPP No. 44) – Koala Habitat Protection (now State Environmental Planning Policy (Koala Habitat Protection) 2020);
- State Environmental Planning Policy 55 (SEPP No. 55) – Remediation of Land; and
- Narrabri Local Environmental Plan 2012.

The Department has considered the proposed modification against the relevant provisions of these instruments. The Department has also considered Whitehaven's consideration of the relevant instruments in its Modification Report. The Department considers that the proposed modification can be undertaken in a manner that is generally in accordance with the aims, objectives and provisions of these instruments.

Reasons for Original Approval

In determining the original Tarrawonga Coal Project application, the Planning Assessment Commission concluded that the benefits of the project outweighed the residual environmental impacts and imposed a range of strict conditions to appropriately manage the impacts. The Department has considered the proposed modification against the reasons the Commission gave for determining the project and is satisfied that the proposed modification does not affect the decision that was previously made. The proposed modification would allow similar benefits to be realised at local, regional and State levels.

3.5 Objects of the EP&A Act

The Department has assessed the proposed modification against the objects of the EP&A Act. The objects of the most relevance to the decision on whether or not to approve the proposed modification are found in section 1.3 of the EPA&A Act and are:

- Object 1.3(a): to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and

other resources;

- Object 1.3(b): to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment;
- Object 1.3(c): to promote the orderly and economic use and development of land;
- Object 1.3(e): to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats;
- Object 1.3(f): to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage);
- Object 1.3(i): to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State; and
- Object 1.3(j): to provide increased opportunity for community participation in environmental planning and assessment.

The Department is satisfied that the proposed modification encourages the proper management and development of resources, including facilitating the continued operation of the Tarrawonga Coal Mine (Object 1.3(a)), and the promotion of the orderly and economic use of land (Object 1.3(c)). The proposed modification involves a permissible land use and would utilise approved overburden emplacement areas.

The Department has considered the principles of ecologically sustainable development (ESD, Object 1.3(b)) in its assessment. The Department considers that the proposed modification may be carried out in a manner that is consistent with the principles of ESD. The Department's assessment has sought to integrate all significant environmental, social and economic considerations.

The Department has carefully considered the environmental impacts of the proposed modification, including potential impacts on the natural, cultural and built environments (Object 1.3(e) and (f)). The disposal of waste OTR tyres would cause minimal impact on cultural and built environments.

The Department made the modification application publicly available on its major projects website and consulted with key Government agencies including Narrabri Shire Council (Object 1.3(i) and (j)).

Further discussion is provided in the Department's assessment (see Section 5).

4 Engagement

4.1 Public Engagement

In accordance with the requirements for Section 4.55(1A) modifications, the proposal was not formally exhibited. Nevertheless, the Department made the modification application and Modification Report available on the Department's major projects website.

4.2 Consultation

The modification application was referred to the Environment Protection Authority (EPA), Resources Regulator (RR) and Narrabri Shire Council (NSC). The public authority advice is summarised below and full copies are provided in **Appendix B**. Whitehaven's response to agency advice is provided in **Appendix C**.

The **EPA** accepted the justification for the proposal given the limited options that are currently available for recycling OTR tyres. However, the EPA recommended that Whitehaven be required to regularly review available options for recycling or recovery of the tyres with the objective of avoiding disposal of the tyres if possible. The EPA also:

- recommended the imposition of limits on the volume of OTR tyres that can be disposed of onsite;
- made a number of recommendations regarding the emplacement of the tyres to limit any risks of pollution, fire, or landform instability; and
- requested that Whitehaven be required to provide annual reports detailing the specific disposal locations and tyres emplaced therein.

The Department notes the EPA's advice that a variation to the mine's Environment Protection Licence No 12365 (EPL) would be required and that its recommendations would be included in the conditions of the EPL variation.

The **Resources Regulator** did not raise any issues or concerns but provided recommendations in relation to the volume and location of OTR tyres in overburden emplacement areas, and a commitment to update the mine's Waste Management Plan. Whitehaven has provided additional information to address the Resources Regulator's request.

Narrabri Shire Council objected to the proposed modification and requested additional information and clarification about the available volume of land, operational and land closure procedures, existing requirements of the mine's EPL, approved waste regulator procedures and applicable monitoring and sampling processes. Whitehaven provided a response to address the NSC comments, however, NSC confirmed that it retains its objection to the proposed modification.

The Department received representations from the community regarding the consultation process and emphasising the need for alternatives to onsite tyre burial. The Department has considered these matters and the agency advice in its assessment below.

5 Assessment

5.1 Introduction

In assessing the merits of the modification application, the Department has considered the:

- public authority advice and comments;
- previous environmental assessments for the project;
- modification applications and existing conditions of approval; and
- requirements of the EP&A Act, including the objects of the Act.

The management of waste OTR tyres is an industry wide issue because of the lack of real alternatives for recycling, difficulties in handling and transport, and the lack of landfill capacity. In NSW, the onsite disposal of mining industry waste OTR tyres is broadly accepted as the only viable solution currently available to appropriately mitigate any risks or potential hazards associated with the storage of large volumes of tyres. The Department has considered the EPA's advice and requirements to limit the surface storage of tyres and therefore considers the proposed modification to be essential for mitigating any associated risks such as major tyre fire.

Whitehaven confirms that it has explored all reasonable and feasible options to avoid or reduce the number of waste tyres requiring disposal, consistent with the waste hierarchy, which is a set of key principles for managing waste established under the *Waste Avoidance and Resource Recovery Act 2001*. Nevertheless, Whitehaven has agreed with the EPA's recommendations to further investigate any feasible and reasonable opportunities for recycling and/or recovery of waste OTR tyres over the remaining life of the mine.

NSC raised concerns about the availability and suitability of land for disposal of the tyres. However, the Department notes that the tyres would only be disposed of within the approved overburden emplacement areas and Whitehaven has confirmed that there would be sufficient capacity to accommodate the tyres.

The Department and RR are satisfied that the disposal of tyres within overburden emplacement areas would not have any significant impact on, or be incompatible with, the existing land use and is unlikely to result in any significant impacts to the mine's rehabilitation objectives or create landform instability. Further, the mine's approved MOP already accounts for the disposal of waste tyres within overburden emplacement areas.

Whitehaven has also confirmed that it would continue to operate in accordance with the rehabilitation conditions under its existing conditions of approval, including complying with best practice rehabilitation objectives to ensure a safe, stable and non-polluting mine site.

As the tyres are proposed to be disposed of within previously approved overburden emplacement areas there would be no impacts to biodiversity, Aboriginal heritage or amenity.

Incorrect tyre disposal methods can result in leaching of oils or heavy metals into groundwater and tyres can provide a fuel source that increases the risks of fire. However, these risks can be managed by appropriate emplacement of the tyres (ie. not in areas likely to leach or near heat sources etc). The Modification Report includes a draft 'Mine Tyre Disposal Procedure' outlining the proposed methods and risk assessments to be applied in the disposal of waste OTR tyres, including adequate coverage (at least 20 metres of material) and separation of tyres from any heat sources (such as potentially acid forming material) and water sources or aquifers, tracking and registering the placement of tyres using serial numbers and surveyed co-ordinates, and ongoing monitoring of emplacement areas and final landform rehabilitation to identify any impacts related to tyre disposal.

The Department accepts that the proposed methodologies, risk assessment and environmental controls represent current best practice for the management and disposal of waste tyres at NSW mine sites.

Notwithstanding the above, the EPA made a number of recommendations related to the emplacement of the tyres and confirmed that it would include conditions in the mine's EPL to ensure onsite tyre disposal is regularly evaluated, managed, recorded and reported. These include:

- ensuring the regular review of available and feasible recycling or recovery opportunities, consistent with the waste hierarchy;
- imposing tyre stockpile limits and annual limits on the volume of OTR tyres disposed onsite;
- environmental safeguards specific to operational procedures and disposal methodologies to minimise risk of surface or groundwater contamination, fire and associated air pollution, and landform instability; and
- annual and cumulative reporting requirements to include among other things, the specific location of OTR tyres in the overburden emplacement areas.

6 Evaluation

The Department has assessed the merits of the proposed modification and considered its potential environmental, social and economic impacts and the relevant requirements of the EP&A Act.

The Department considers that the onsite disposal of waste OTR tyres can be undertaken with no environmental impacts beyond those already approved for the mine.

The Department supports the EPA led waste management initiatives and its sector wide approach to regulate the disposal of waste OTR tyres at mine sites. The Department also recognises the current need to manage waste OTR tyres at the mine, which have previously been buried in overburden emplacement areas in accordance with the mine's MOP and continue to be stockpiled. Like many other mine sites across Australia and NSW, waste management options are currently limited, mainly due to a general lack of available recycling technologies in the waste industry and the mine's remote location. As such, there are no feasible recycling opportunities currently available and the Department considers that the disposal of OTR tyres in the emplacement areas would be the safest and most reasonable option available at this time.

Consistent with other mining approvals, the onsite disposal of waste OTR tyres would be managed under the existing conditions of consent and the mine's EPL. The EPA confirms that a variation to the EPL would include a suite of specific waste tyre management conditions to ensure the implementation of adequate environmental controls and the regular review of alternative waste disposal and/or recycling options.

If the proposed modification is not approved, stockpiled OTR tyre quantities would continue to increase, along with the associated risks and potential hazards such as a major tyre fire. The Department therefore considers that the proposed modification is essential for mitigating any possible fire risks.

The Department considers that until further recycling and/or recovery options become available, the disposal of waste OTR tyres within overburden emplacement areas is a reasonable alternative that

would ensure any risks associated with the storage of large volumes tyres is minimised as far as possible.

On balance, the Department is satisfied that the proposed modification can be carried out in an environmentally sustainable manner and should be approved.

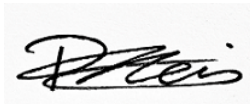
The Department has drafted a recommended Notice of Modification (see **Appendix D**) and consolidated version of the project approval, as modified (see **Appendix E**).

7 Determination

The Department recommends that the Director Resource Assessments, as delegate of the Minister for Planning and Public Spaces:

- **considers** the findings and recommendations of this report;
- **determines** that the modification application 11_0047 MOD 9 falls within the scope of section 4.55(1A) of the EP&A Act;
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to grant approval to the modification application;
- **agrees to modify** the project approval for Tarrawonga Coal Project (11_0047); and
- **signs** the attached Notice of Modification (**Appendix D**).

Recommended by:



12 May 2021

Philip Nevill

Senior Environmental Assessment Officer
Resource Assessments

The recommendation is **Adopted / Not adopted** by:



12 May 2021

Stephen O'Donoghue

Director
Resource Assessments
as delegate of the Minister for Planning and Public Spaces

Appendices

Appendix A – Modification Report

See the Department's website at:

[MOD 9 – Waste Tyre Disposal | Major Projects - Department of Planning, Industry and Environment \(nsw.gov.au\)](#)

Appendix B – Agency Advice

See the Department's website at:

[MOD 9 – Waste Tyre Disposal | Major Projects - Department of Planning, Industry and Environment \(nsw.gov.au\)](#)

Appendix C – Additional Information

See the Department's website at:

[MOD 9 – Waste Tyre Disposal | Major Projects - Department of Planning, Industry and Environment \(nsw.gov.au\)](#)

Appendix D – Notice of Modification

See the Department's website at:

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Appendix E – Consolidated Project Approval

See the Department's website at:

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