

## 10 Bushfire

### 10.1 Project changes and assessment

The MIA footprint has been reduced from 37.2 ha to 33.5 ha and its boundary has been moved approximately 70 m north. These changes do not change the asset protection zone (APZ) widths determined in the bushfire assessment (EA Appendix J) because the slope and vegetation to the north is consistent with that assessed in the EA.

There will be some additional buildings in the CHPP footprint. These do not require further assessment as the footprint has not increased in size and the whole footprint was assessed for bushfire risk.

The explosives magazine and dangerous goods depot have moved out of the MIA (Figure 3.2). The explosives magazine has moved to an area which will be cleared of vegetation. It will be over 200 m from any native vegetation and the immediate surrounds will be cleared or managed as grassland.

The Dangerous Goods depot has moved west to an area of grassland approximately 90 m from forest vegetation. The slope at the Dangerous Goods depot is similar to that assessed for the EA and the area around it will be managed to minimise risks from fire including maintenance of appropriate APZ widths.

New APZs for the explosives magazine and dangerous goods depot have been calculated in response to submissions received and they are given in Section 10.2.4.

### 10.2 Response to submissions

#### 10.2.1 Bushfire management across the Project application area

##### **Submissions**

NA-2, C-1, G-11, I-63, I-102

##### **Issues**

The OEH comments that the EA only addresses fire protection for mine buildings and infrastructure and does not adequately address grass fire or bushfire risk and hazard reduction across the entire Project Application Area (including revegetation areas, other CHC-owned land, adjacent lands and OEH estate). Submissions also comment that:

- the EA does not consider the bushfire risk management plans for the relevant RFS zones across the entire Project Application Area [the relevant plans are the bush fire risk management plans (BFRMP) prepared by the Cudgegong, Castlereagh and Orana bush fire management committees];
- the EA should be clearer on how CHC will prevent ignition and spread of bushfires in accordance with the *NSW Rural Fires Act 1997*;
- resources for Dapper Rural Fire Brigade are not described in the EA;
- CHC should form a Project rural fire brigade;
- there should be a fire management plan for after the life of the mine;

- the Rural Fire Service (RFS) be engaged prior to construction to ensure best practice procedures are in place; and
- Project land will represent a fire hazard due the build up of fuel and inadequate bushfire prevention.

## Responses

The EA (Appendix J Section 3.4) describes measures to prevent or manage bushfires. These include hazard reduction to manage fuel levels and preparation of a bushfire management plan. Additionally, bushfire management will be considered in the Project's biodiversity management plan.

Since exhibition of the EA, CHC has consulted with local RFS personnel from the Castlereagh, Orana and Mid-Western zones regarding their requirements for effective bushfire management. The RFS recommended that the plan mirror the National Parks and Wildlife Service model to provide strategic and operational guidance for bushfire management on the site and also promote strong links to the RFS by integrating with their regional risk management plans.

The Project's bushfire management plan will cover all CHC-owned land and be prepared in line with RFS's recommendations and in consultation with the RFS and OEH. The PAA covers about 274 km<sup>2</sup> and defines an area for impact assessment purposes, however, CHC will only have control over about 65% of this area. The PAA will continue to contain a large portion of land that is privately owned or part of conservation reserves and state forest. Bushfire management in these areas will remain the responsibility of these land owners.

The bushfire management plan will be in place prior to construction and be implemented for the life of the Project. Private land holders who buy the land after mining will be responsible for post-mining bushfire management.

There are four high risk assets identified in the PAA, as described in the Cudgegong and Castlereagh BFRMPs. These are the houses along Suzanne Road north of the rail spur, Tuckland State Forest (SF) (pers. Comm. RFS, 18/01/2013), Goodiman State Conservation Area (SCA) and Yarrobil National Park (NP). In addition to these, Montaza Road Estate, which is partially within the CHC-owned lands, is listed as a high risk asset in the Cudgegong BFRMP.

The prescribed treatment for Suzanne Road and the Montaza Road Estate is community education and hazard reduction. CHC will help the relevant agencies (OEH and RFS) with hazard reduction activities in these areas.

The prescribed treatments for the Tuckland SF, Goodiman SCA and Yarrobil NP are management as per DPI and OEH risk management strategies, respectively. CHC will consult with the DPI and OEH to ensure that the bushfire management plan prepared for the CHC owned-lands is compatible with the risk management strategies already in place for these areas.

CHC will implement the following treatments described in CBFMC (2012):

- developments in bushfire prone land will comply with the RFS document *Planning for bushfire protection* (PBP): CHC will ensure PBP is considered during design of structures, associated access and APZs;
- permits are required during the bushfire danger period: CHC will apply for fire safety permits if they intend to ignite a fire during the bushfire danger period;

- investigation of bushfire cause: CHC will assist the RFS investigations into bushfires ignited on CHC-owned land;
- normal fire suppression activities: all the occupiers of CHC-owned land will immediately on becoming aware of a fire take all possible steps to extinguish the fire and will notify the RFS as soon as possible. If the occupier is unable, without assistance, to extinguish the fire, they will immediately notify the RFS for assistance; and
- fire management plans or plans of management: CHC will prepare a bushfire management plan and a biodiversity management plan in consultation with the RFS, DPI and OEH. These will describe fire prevention and fighting activities on CHC-owned land. The bushfire management plan will be prepared in accordance with the requested RFS conditions described in Section 10.2.8.

In addition to the above support and as described in the EA (Appendix S Section 8.1.4); CHC will provide financial contributions to Dapper Rural Fire Brigade. CHC does not intend to form its own brigade, but will encourage employees who live locally to join the Dapper brigade.

### 10.2.2 Bushfire threat to property

#### Submission

I-102

#### Issue

A submitter questioned if their property on Suzanne Road will be at increased bushfire risk from the north/north-west.

#### Response

Ideally, the proposed biodiversity offset areas between Tucklan State Forest and Goodiman State Conservation Area will be added to the National Parks estate and managed by the National Parks and Wildlife Service. If this occurs, the offsets will be managed in accordance with NPWS bushfire management protocols. If CHC continues to manage these offset areas, they will be managed to mitigate bushfire risks according to the bushfire management plan that will be prepared.

### 10.2.3 Temporary construction accommodation village

#### Submissions

NA-5, C-1

#### Issues

Dubbo Council commented that the construction village may be defined as development for special fire protection purposes under Clause 46 of the NSW Rural Fires Regulation 2008. Therefore, if this is the case an inner protection zone of 35 m would be required. RFS comments that detailed design of the village needs to include sufficiently wide APZs to ensure construction is no greater than Bushfire Attack Level (BAL) 29. BAL measures the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact (AS 3959-2009). There is high risk that a BAL-29 structure will come under ember attack and be exposed to high levels of radiant heat. Therefore, it needs to be constructed to a high level of fire protection.

## Responses

As described in the EA (Appendix J Section 1.2), Section 75R(1) of Part 3A of the EP&A Act exempts Major Project applications from having to consider Section 79BA of that Act, which requires developments on bushfire prone land to conform to PBP. Notwithstanding, the bushfire assessment was carried out in accordance with the development application submission requirements in Appendix 4 of PBP.

The RFS APZ calculator was used to calculate APZs for the village, assuming it is development for special fire protection purposes (RFS, accessed 14/01/2013). The resulting APZ was 85 m with an inner protection area of 60 m and an outer protection area of 25 m. CHC will provide an 85 m APZ around the village which will be managed as an inner protection area as required by the relevant condition described in Section 10.2.8.

A BAL-29 structure should not be exposed to a heat flux of more than 29 kW/m<sup>2</sup> (AS 3959-2009). The APZs for development for special fire protection purposes aim to achieve a heat flux at the facade of a structure of not more than 10 kW/m<sup>2</sup> (PBP). Therefore, the APZs will achieve a lower heat flux during a bushfire than the maximum heat flux for BAL-29 structures.

### 10.2.4 Asset protection zones

## Submissions

NA-5, C-1

## Issue

Dubbo Council commented that the EA did not explain how APZ calculations accounted for structures which will house combustible and hazardous materials that may ignite or spread a bushfire.

The RFS commented that the APZs for the dangerous goods depot and refuelling/fuel storage areas are based on a potential heat flux of 29 kW/m<sup>2</sup> and that greater protection could be provided for these areas by increasing APZ width.

## Responses

The bushfire assessment calculated APZs using the method in Appendix 2 of PBP for development for residential and rural residential subdivision purposes. This is based on a heat flux of not more than 29 kW/m<sup>2</sup> at a structure's facade.

The APZs for developments for special fire protection purposes aim to achieve a heat flux at the facade of a structure of not more than 10 kW/m<sup>2</sup>. APZs calculated on this basis were:

- the Dangerous Goods depot (based on slope class iii and forest): total APZ of 85 m with an inner protection area of 60 m and an outer protection area of 25 m;
- refuelling/fuel storage areas (based on slope class ii and woodland): total APZ of 50 m, which will be managed as an inner protection area; and
- explosives magazine: total APZ of 20 m, which will be managed as an inner protection area. This is based on an RFS requirement for 20 m APZs around some structures which were not assessed for bushfire and may be surrounded by grassland (see Section 10.2.8).

These relatively wide APZs provide greater protection around combustible and hazardous material storage areas.

### 10.2.5 Bushfire in the preliminary hazard assessment

#### Submission

C-1

#### Issue

Dubbo Council commented that the preliminary hazard assessment (Appendix U) did not account for the bushfire threat immediately surrounding the hazardous materials store and that the RFS should review the assessment.

#### Response

The APZs for the Dangerous Goods depot, explosives magazine and refuelling/fuel storage areas have been increased in response to RFS comments (see Section 10.2.4). This will reduce bushfire risks on these buildings and the risk of a fire starting at any of these buildings.

### 10.2.6 Threatened species

#### Submission

G-11

#### Issue

The Nature Conservation Council of NSW commented that the bushfire assessment did not describe how threatened species will be managed in bushfire management zones or if and how ecological burning will occur.

#### Response

All APZs will be in areas which are proposed to be cleared of vegetation. Limited regrowth may be allowed in APZs, with preference for threatened species, which will be described in the biodiversity management plan. Ecological burning may be implemented as part of hazard reduction. This will be described in the bushfire management plan and the biodiversity management plan.

### 10.2.7 Adequacy of bushfire assessment

#### Submission

C-1

#### Issue

Dubbo Council commented that the bushfire assessment should be referred to the RFS because it contains APZ discrepancies and a lack of information about combustible and hazardous materials.

## Response

The bushfire assessment has been reviewed by the RFS and their comments are addressed in this chapter. The RFS will continue to be consulted regarding the design and development of the Project.

### 10.2.8 Conditions

#### Submission

NA-5

#### Issues

The RFS recommended that the following conditions be included in any approval granted for the Project:

- A bushfire management plan be prepared which describes measures to prevent ignition and spread of fire during construction and operation of the development, including:
  - contact person/details for emergency management;
  - schedule and description of works for construction of APZs and their continual management;
  - strategy for hazard reduction, including undeveloped areas where vegetation may regenerate;
  - communication strategy for coordinated response to bushfires with the RFS;
  - operational measures identified in section 3.4 of the bushfire assessment in Appendix J of the environmental assessment;
  - work involving risk of ignition should not be carried out during total fire bans;
  - availability of suppression equipment;
  - fire fighting water supply for the construction village;
  - storage of fuels and other flammable materials; and
  - evacuation procedures for staff (including at the construction village) in case of bushfire emergency in accordance with the RFS *Guidelines for the Preparation of Emergency/Evacuation Plan*.
- the construction village shall be constructed in accordance with AS 3959-2009. APZs around the village shall be managed as an inner protection area as outlined in Section 4.1.3 and Appendix 5 of PBP and the RFS *Standards for asset protection zones*;
- at the start of construction and for the life of the development, APZs shall be provided around infrastructure as outlined in Table 3.1 of the bushfire assessment in Appendix J of the EA. The APZs shall extend around the entire infrastructure building/facility for the nominated distances and shall be managed as an inner protection area as outlined in Section 4.1.3 and Appendix 5 of PBP and the RFS *Standards for asset protection zones*;
- access to the mine infrastructure buildings and facilities shall provide access for fire fighting vehicles in accordance with the requirements of Section 4.1.3(2) of PBP;

- electricity and gas services are to comply with Section 4.1.3 of PBP;
- landscaping is to comply with the principles of Appendix 5 of PBP; and
- the switching yard, substation and pump station shall be surrounded by 20 m APZs.

#### **Response**

CHC and the mine operator will implement the above construction and operation related conditions at the Project.

### **10.3 Conclusion**

The proposed Project changes will not change the outcomes given in the EA (Chapter 11) and the bushfire assessment (Appendix J). However, APZs have been extended and the revised APZs will be adopted during in design of the Project. These are:

- Dangerous Goods depot: total APZ of 85 m with an inner protection area of 60 m and an outer protection area of 25 m;
- refuelling/fuel storage areas: total APZ of 50 m, which will be managed as an inner protection area;
- explosives magazine: total APZ of 20 m, which will be managed as an inner protection area; and
- switching yard, substation and pump station: total APZ of 20 m, which will be managed as an inner protection area.

A bushfire management plan will be prepared in accordance with the RFS requested conditions described in Section 10.2.8. The bushfire and biodiversity management plans will describe threatened species management in APZs and ecological burning on CHC-owned land.

Additionally, CHC will implement the treatments described in Section 10.2.1.

