



File Ref. No: BFS17/181 (12695)
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Contact: Duke Ismael

The Department of Planning & Environment
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1 February 2017

Dear Ms Burn

**Proposed Shoalhaven Starches –Beverage Grade Ethanol
Bolong Road, Bomaderry (MOD 12, Project Approval MP 06_0228)**

I refer to the above development proposal's Environmental Assessment (EA), which is currently on public exhibition. Fire & Rescue NSW (FRNSW) have reviewed the EA, in particular Section 8.1 and Annexure 7 – Preliminary Hazard Analysis (PHA).

In light of the information provided and the history of modifications prepared for the site as a whole, FRNSW recommends a Fire Safety Study (FSS) be prepared for submission and consultation. FRNSW would also like to encourage the proponent to undertake early consultation and we will actively facilitate timely dialogue.

To assist the proponent progress with design development and incorporate FRNSW expectations in regards to fire system design into the Front End Engineering Design documentation we submit the following comments and recommendations:

Comments/Recommendations

The following points outline matters which FRNSW require to be addressed as part of the FSS, in response to our review of EA. These would also address FRNSW expectations with respect to the minimum fire protection system and site resource capabilities that should be provided in order to enable FRNSW to safely and effectively resolve fire incidents regarding the proposed works:

1. The proposal's EA describes Shoalhaven Starches having pursued a number of technological innovations and have made progressive changes to the site in moving towards a "closed" system production. Given these changes and the increase in output capacity, the number of integrated processes involved and the size of the site, FRNSW recommend the existing site-wide FSS (Revision



5 dated 16 November 2016 – Reference 238267 which has been prepared by Aurecon Australasia Pty Ltd), be revised and submitted to FRNSW for a determination to be provided in-line with the development's Project Approval conditions.

In conjunction with the above recommendation, FRNSW believes that all existing FSS's for the various parts of the Shoalhaven Starches development currently awaiting assessment by FRNSW, should be incorporated within the site-wide FSS. As detailed within Hazardous Industry Planning Advisory Paper No 2, the objective of the FSS is to ensure that the existing or proposed fire prevention, detection, protection and firefighting measures are appropriate for the specific fire hazard and adequate to meet the extent of potential fires for the subject development. Also, where development involves the extension or substantial modification of an existing facility, the study should be set in the context of the fire hazard and systems for the entire site.

The Shoalhaven Starches development has had multiple FSS's, with several study titles, each having been submitted to FRNSW since the Project Approval dated 28 January 2009. To date, FRNSW has provided numerous responses to the proponent in relation to these submissions. At present, there remains three separate FSS's which have been submitted to FRNSW and are awaiting assessment. Also, an additional FSS for a separate part of the Shoalhaven Starches development has been assessed by FRNSW and has been granted 'conditional approval', pending a number of recommendations being implemented.

The existence of several FSS's for the same development is extremely problematic to undertake a detailed and holistic assessment for the subject development, especially given the size, risk and complexity of the Shoalhaven Starches development. Therefore, the need for one (1) site-wide FSS to be developed and adopted for the Shoalhaven Starches development is critical for FRNSW to provide the proponent with a site-wide FSS determination moving forward.

If the proponent undertakes future expansion or modification at the subject site, such is the case for this modification (MOD 12), the stand alone site-wide FSS which has been prepared for the Shoalhaven Starches development should be required to undertake the appropriate revision and then be submitted to FRNSW for assessment and implemented to the satisfaction of FRNSW, in-line with the development's Project Approval conditions.

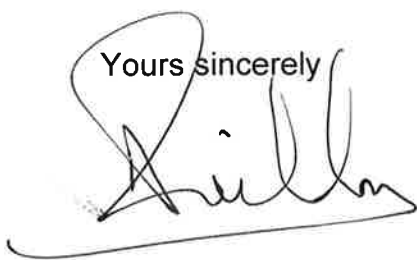
2. While low likelihood fire scenarios may be considered non-credible, the occurrences of such incidents still have potential for significant consequences. FRNSW expects that appropriate control measures are developed and implemented for low likelihood fire scenarios.
3. FRNSW notes the use of a specific combination of weather stability class & wind speed values as part of the PHA. Where scenarios involving fire and toxic or flammable gas release events can be influenced by the effects of local wind climate, FRNSW recommend an appropriately detailed meteorological

analysis be undertaken and included in the FSS to determine the wind conditions that could produce the worst-case fire or release event.

4. Examine risks associated with all material bleed stream transfers forming part of the new plant, with special regards to materials exhibiting flammable, toxic and/or explosive properties and safeguards proposed to assist fire brigade intervention.
5. Outline all proposed fire protection measures and procedures including (but not limited to) manual and/or automated systems, the fire hydrant system design proposed, detection systems, type of foam-based systems proposed and the procedures/systems available on site for call-out and liaison with FRNSW.
6. The actuation of active fire suppression and cooling water systems is expected to be initiated automatically by appropriate detection systems, (e.g. flame detection, lineal fire wire heat detection etc.). Any such activation of the active fire suppression and cooling water systems should also automatically initiate the adopted containment strategy to contain any potentially contaminated firewater to the site.
7. Subject matter experts (SME) are expected to be available 24/7 for on-site consultation with FRNSW during an incident. FRNSW does not expect that SMEs remain on site at all times, however a travel time of 30 minutes from a SME residence to the facility is considered to be the maximum travel time permitted i.e. the arrival of a SME within 30 minutes of an incident will afford a FRNSW incident management team the best opportunity to develop appropriate incident management strategies and implement tactics in a timely and effective manner.

For further information please contact Cameron Wheatley of the Fire Safety Assessment Unit, referencing FRNSW file number BFS17/181 (12695). Please ensure that all correspondence in relation to this matter is submitted electronically to firesafety@fire.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mark Reilly', written over a horizontal line.

Superintendent Mark Reilly AFSM CMIFireE
Manager
Fire Safety Assessment Unit