COMMUNITY ALLIANCE FOR
POSITIVE SOLUTIONS INC. (CAPS)
P.O Box 69, Yarloop, WA 6218
0409335011 or 0409370235
Email: caps6218@yahoo.com
Web: www.caps6218.org.au

The Appeals Convenor
Level 22, Forrest Centre
221 St Georges Terrace
PERTH WA 6000

20 May 2014

APPEAL

ENVIRONMENTAL PROTECTION ACT 1986, PART V – PROPOSED VOC AMENDMENTS TO WORKS APPROVAL

W5391/2013/1 Wagerup Alumina Refinery.

Introduction

CAPS has received advice that DER intends to amend the works approval to allow Alcoa to commission and verify the project in three phases rather than having all the works completed during a single project implementation. The intent of this change is to minimise further delays in the project.

Following are excerpts from relevant documents. From these it is evident that a considerable number of inconsistencies exist in relation to Wagerup emissions.

Executive Summary

CAPS contends that:-

- There are a number of VOC sources which are not included in the license, which are not monitored and appear to have been ignored. As a consequence, the VOC licensing is not representative of the actual VOC's released into the environment.
- The implementation timeframe will not keep pace with the increase in VOC emissions and that as a result, the community will be exposed to increasing rather than decreasing emission levels, leading to greater health and environmental impacts.
- Calciner 4 should be part of this works approval.
- The DER would be neglecting its duty of care by not including Calciner 4 Low Volume Vent (LVV), which is a major contributor of VOCs and other toxic emissions in the licence conditions.
- A new ERMP should be conducted, encompassing all emission sources.
- Calciner 4 has the same kind of emissions as Calciners 1, 2 and 3 and yet is not part of this scope. The current throughput of Calciner 4 (120TPH) is almost as much as the combined output of Calciners 1, 2 and 3, (160THP), and therefore its

Yarloop
Waroona
Hamel
Harvey
Cookernup
Wagerup
Other Impacted Areas

Volatile Organic Compounds (VOCs) emissions must be pro rata, should be licenced and must be included in the VOC reductions plan.

- Calciner 4 LVV has been excluded from the licence conditions without explanation.
- Emissions from the 50B Tank Vent should be tested at the current production level with the current tank contents.
- The Emissions Inventory should be updated.
- Testing for mercury and organo-mercury compounds should be carried out before and after commissioning as part of this works approval.
- Mercury and organo-mercury compounds should be included in the Calciner Priority emissions.
- Since Alcoa has a history of basing its reports on out dated historical data, the veracity of Alcoa's reports is questionable and the whole process needs to be re-assessed and subject to a new ERMP.
- There should be a holistic approach to all emissions, including dust (PM 2.5), heavy metals (e.g. Mercury, Arsenic, Uranium, Thorium, Radium, Cadmium, Beryllium etc.), from all point sources before any further production increase is even considered.
- Averaging out VOC emissions in kilos, does not give a meaningful account of the hazardous/carcinogenic chemicals. Some VOCs are more harmful to human health and the environment than others and many (such as benzene and formaldehyde) are harmful in fairly low concentrations. In view of this, the license should be more specific and the reporting of emissions should be more specific.
- Alcoa does not have a social license from the community. We believe that this constitutes a serious breach of the social licence conditions and all current licences should be suspended until this matter is fully investigated and rectified.
- If any emission sources remain that are not monitored and addressed, any VOC reduction monitoring data will not be a true reflection of the overall emissions, rendering the report invalid.
- The works approval has been granted, placing too much reliance on information that may become available in late 2014, not on what is available now.

Questions:-

- Was a works approval issued for construction of Calciner 4?
- If so, when was the works approval issued? and
- Was the works approval made available for community comment?

- If Alcoa has not completed each stage within the 6 month timeframe:-
    - How will DER enforce this timeline?
    - What penalties will Alcoa incur if the timeline is **not** met?
    - Will the DER just extend the time period?
- Why is Calciner 4 not mentioned as part of this project?
- Why is mercury not included in the Calciner testing?
- What happens to the "condensate" water, which will contain a range of toxic compounds?
- How does Alcoa distinguish between licenced and unlicensed VOC/emissions?
- How does DER distinguish between licenced and unlicensed VOC/emissions?
- What is the difference between calciners 1, 2, 3 LVV and calciners 4 LVV-VOC/emissions?
- How long has Alcoa known about the unlicensed VOC/emissions?
- How long has DER known about unlicensed VOC/emissions?
- Why hasn't anything been done to rectify unlicensed emissions?
- How many unlicensed and thus unmonitored emission points are there?
- Why are there unlicensed emissions?
- What does Alcoa consider as **priority** VOC emissions?
- What does DER consider as **priority** VOC emissions?
- What are **priority** VOC emissions?
- In view of the "*unreliability in existing information for current operations"* and since the *"ambient impact is not known"*, how can the DER determine any understanding of current versus future emissions, and how can DER determine any real emission reductions?
- In view of the erroneous and out of date Alcoa reports, in conjunction with the anomalies and unknowns apparent within DER information, how can the Minister dismiss the appeals relating to the conditions of this works approval*?*
- The DER has foreshadowed changes to the licence post commissioning. Does this mean the current non-compliance may be covered by possible future changes?
- Based on poor VOC management and monitoring at present, how can the community have confidence in future control measures?
- Alcoa proposes to verify their predictions via a monitoring program set up by them, to demonstrate whether it achieves the required VOC emission reduction. Who will validate these findings?

Whilst we welcome any efforts to reduce VOC emissions, this proposal falls far short of the requirement. The omission of Calciner 4 and its 120 TPH throughput and any other unlicenced and unmonitored emission sources make the whole exercise a sham.

Alcoa Wagerup Refinery Air Emissions Inventory Final Report 25th September 2002

Page 6 *Under* ***Explanation of source selection:-***

"All four stacks are being individually monitored as part of the bi-monthly sampling program, and the results of that program have shown that Calciners 4 is typical of the emissions and concentrations experienced from all other calciner units. As the unit with the highest discharge rate of exhaust gas it is also generally the biggest contributor to emissions from the group as a whole."

From the above statement is evident that Calciner 4 should be part of this works approval.

Pages 26–31 4.4 CALCINER 50B TANK VENT

Para 1: *"Additionally,* ***the source of the condensate contained in this tank has been modified since sampling was performed*** *to use evaporation condensate rather than digestion condensate. Evaporation condensate is much less odorous as it contains fewer dissolved compounds. Therefore* ***future monitoring of this source is expected to result in changes to emission composition and compound concentrations.****"*

Para 3: "It is important to note that due to the very high moisture content of this sample (>98%) the sample volume that could be collected was greatly reduced (approximately 2.5 litres). ***This resulted in greater than normal detection limits for all of the analyses carried out.****"*

Since the condensate in the tank at the time of sampling is no longer representative of the current day contents of the tank, and in view of the greater than normal detection limits for all of the analyses carried out, the data contained in the Inventory for this source is clearly out of date and not accurate.

CAPS contends that:-

- Emissions from the 50B Tank Vent should be tested at the current production level with the current tank contents.
- The Emissions Inventory should be updated.

What happens to the "condensate" water, which will contain a range of toxic compounds?

Pages 32–36 4.4 CALCINER VACUUM PUMP VENT

Table 4.5.1: The target compound classes are: SVOCs, Aldehydes & ketones and Methanol & Ethanol.

Vacuum pump discharge is known to commonly contain mercury.

Why is mercury not included in the Calciner testing?

CAPS contends that:-

- Testing for mercury and organo-mercury compounds should be carried out before and after commissioning as part of this works approval.
- Mercury and organo-mercury compounds should be included in the Calciner Priority emissions.

Environmental Review Management Plan (ERMP) May 2005

Page 75 5.1.3.5.Calcination:-

"*There are currently four calciners installed at the Wagerup refinery. Units 1, 2 and 3 have 100m multiflu, whilst calciner 4 has 49metre stack. Two Additional calciner units will be installed (Units 5 and 6). These units and calciner 4 will be serviced by second 100 metre multiflu and the current calciner 4 stack removed. Dust emissions from these calciners during normal operation will be controlled by electrostatic precipitators (ESPs) and are expected to be less than 15 mg/m3 representing improved dust control performance. Calciner 4 will be further upgraded to allow the destruction of the low volume vent emissions."*

It appears that emissions from Calciner 4 were planned to be addressed with implementation of the Wagerup Unit 3 expansion, however, Alcoa has not properly addressed the emissions from Calciner 4, based on the fact that the Wagerup Unit 3 expansion has not gone ahead.

The fact that the emissions from Calciner 4 Low Volume Vent (LVV) are not licensed or measured raises the following questions:-

- Was a works approval issued for construction of Calciner 4?
- If so, when was the works approval issued? and
- Was the works approval made available for community comment?

Appeals Convenor Report to the Minister for the Environment, Appeals Objection to the amendment of conditions of license ref 6217/1983/14 December 2012.

Page 8 DEC Advice; Para 3:-

*"The DEC also noted that despite the emissions benefit being based on Aggregate Calciner VOC Emissions, it expects Alcoa to adequately address **ALL VOC** emissions from the refinery in its works approval application."*

Hence the DER would be neglecting its duty of care by not including Calciner 4 LVV in the licence conditions (which is a major contributor of VOCs and other toxic emissions), compelling Alcoa to upgrade this equipment regardless of whether or not Wagerup 3 goes ahead.

Works Approval W5391/2013/1 (Amended)

Page 4 of 12: **1.2.3:-**

"The Works Approval Holder shall commission the works of Stage I, Stage 2and Stage 3 for a period not exceeding six months for each stage."

If Alcoa has not completed each stage within the 6 month timeframe:-

- How will DER enforce this timeline?
- What penalties will Alcoa incur if the timeline is **not** met?
- Will the DER just extend the time period?

Page 4 of 12: **2.2.1 Emission points to air:-**

Only Calciners 1, 2 and 3 are mentioned.

Calciner 4 has the same kind of emissions as Calciners 1, 2 and 3 and yet is not part of this scope. The current throughput of Calciner 4 (120TPH) is almost as much as the combined output of Calciners 1, 2 and 3, (160THP), and therefore its Volatile Organic Compounds (VOCs) emissions must be pro rata, should be licenced and must be included in the VOC reductions plan.

Why is Calciner 4 not mentioned as part of this project?

Decision Document Environmental Protection Act 1986, Part V.

Proponent: Alcoa of Australia Ltd, Works Approval: W5391/2013/1.

Page 4 of 25 **3. Executive Summary of proposal** ***Para. 5:-***

"As one of the appeals was lodged by the licence holder, the decisions are on hold and do not have effect until the appeal is determined. In consultation with DER, the VOC reduction project has continued on the basis that it relates to the reduction of ***licensed priority VOC emissions."***

This is an admission that there are different types of VOC emissions (i.e. licensed and unlicensed, as well as priority and other emissions). Without full attention given to all emissions, DER is at risk of failing in its duty of care, to protect the community from the health impacts of the Wagerup refinery and its mud lakes.

Before determination the following questions need to be addressed:-

1. How does Alcoa distinguish between licenced and unlicensed VOC/emissions?
2. How does DER distinguish between licenced and unlicensed VOC/emissions?
3. What is the difference between calciners 1, 2, 3 LVV and calciners 4 LVV-VOC/emissions?
4. How long has Alcoa known about the unlicensed VOC/emissions?
5. How long has DER known about unlicensed VOC/emissions?
6. Why hasn't anything been done to rectify unlicensed emissions?

7. How many unlicensed and thus unmonitored emission points are there?
8. Why are there unlicensed emissions?
9. What does Alcoa consider as **priority** VOC emissions?
10. What does DER consider as **priority** VOC emissions?
11. What are **priority** VOC emissions?

Surely all toxic emissions are a priority!

Page 4 of 25 Para. 6:-

"Alcoa have submitted this works approval application to achieve the required priority VOCs reduction through the treatment of Calciners 1-3 Low Volume Vent (LVV) emissions".

This should also apply to Calciner 4 LVV. (See P5 -under **P8 DEC Advice**), *"It expects Alcoa to adequately address **ALL VOC** emissions from the refinery in its works approval application"*

Page 5 of 25 4. Decision Table General Conditions W1.2.3:-

"Amendment April 2014: Alcoa have provided an updated commissioning plan, detailing a stage to commissioning approach Calciners tie-ins commissioning and verification monitoring will be completed in three stages to coincide with scheduled Calciner maintenance. DER has amended works approval condition 1.2.3 to enable this modified approach."

Why is Calciner 4 not part of this works approval?

Page 7 of 25 4. Decision Table Odour:-

"Odour is a significant factor for the Wagerup Alumina Refinery and available data on odour is outdated and many changes have occurred on site since 2008. Odour cannot be directly attributed to VOC production therefore unreliability in existing information for current operations combined with the focused nature of reducing VOC'S from the calcination facility mean that a quantitative assessment in the change in odour emissions for the facility and its ambient impact is not known. *Not withstanding, DER would expect a reduction albeit minor from this source."*

- In view of the "*unreliability in existing information for current operations"* and since the *"ambient impact is not known"*, how can the DER determine any understanding of current versus future emissions, and how can DER determine any real emission reductions?
- Since Alcoa has a history of basing its reports on out dated historical data, the veracity of Alcoa's reports is questionable and the whole process needs to be re-assessed and subject to a new ERMP.

- There should be a holistic approach to all emissions, including dust (PM 2.5), heavy metals (e.g. Mercury, Arsenic, Uranium, Thorium, Radium, Cadmium, Beryllium etc.), from all point sources before any further production increase is even considered.

Page 8 of 25 4. Decision Table Improvements:-

Amendment April 2014: *"Appeals relating to the conditions of this works approval were dismissed by the Minister for environment on 7 January 2014. For further information refer to the Office of the Appeals Convener website".*

In view of the erroneous and out of date Alcoa reports, in conjunction with the anomalies and unknowns apparent within DER information, how can the Minister dismiss the appeals relating to the conditions of this works approval*?*

Page 11 of 25 6. Appendix A

1. Point source emissions to air including monitoring:-

A 3. *"The licensee shall submit a works approval application to the Director by 31st the January 2013 for a VOC emission reduction project"*

A 4 ***"****The works approval application shall include a detail proposal, design specification, construction timeframes and commissioning plan* ***to reduce VOC emissions from the premises*** *by 31st of March 2014, so as to achieve a reduction in VOC emissions that equates to at least 1.5 times the amount of VOC emissions attributed to a production increase to 2.8 million tonnes of alumina per year."*

In the above statements there is no mention of specific calciners. It states **a reduction of VOC emissions from the premises**; therefore all calciners should be included in the reduction project: This includes Calciner 4.

Page 12 of 25 Table 1 Summary of HRLT Priority VOC findings:-

Table 1 is flawed as it does not include Calciner 4 VOC emissions, hence should not be taken as a real reduction of VOC emissions.

Averaging out VOC emissions in kilos, does not give a meaningful account of the hazardous/carcinogenic chemicals. Some VOCs are more harmful to human health and the environment than others and many (such as benzene and formaldehyde) are harmful in fairly low concentrations. In view of this, the license should be more specific and the reporting of emissions should be more specific.

Page 19 of 25 Appendix D: Stakeholder Submissions And Consideration:-

1. Production Increase Submissions - DER Consideration #1:-

"This works approval does not approve a production increase, it is for works to redirect waste gases discharge via the LVV to the combustion zone of calciners 1-3 to achieve the VOC reduction required by DER".

The VOC works project to be done by Alcoa, is a stepping stone to achieve a production increase to 2.8Mtpa.

Page 20 of 25 Consideration #3:-

"DER directed Alcoa to undertake a VOC and Odour Monitoring and Modeling Program to improve understanding of current emissions including any additional sources"

Both Alcoa and DER are well aware of current emissions and additional sources, Refer; WINTER STUDY 2006.

Page 21 of 25 Appendix D: Stakeholder Submissions And Consideration:-

2. Community Consultation - DER Consideration #1:-

"The legal status and other claims about the CCN membership have no bearing on its ability to participate in Alcoa's project consultation, nor does the technical ability of the members. DER encourages community members to participate in CCN where possible and provide input into the process changes, upgrades of sites operation".

Then why does Alcoa state that it consulted CCN and has community approval? By making this statement Alcoa creates the perception that it has approval from the community at large, therefore achieving its agenda without having to be accountable. This is blatant misinformation; insults the intelligence of the community and does a discredit to both Alcoa and Government for perpetrating the myth.

The DER may *"encourage community members to participate in the CCN **where possible**"* but the reality is something very different.

In a recent news report from NSW, the Office of Coal Seam Gas (OCSG) has withdrawn permission for Metgasco to drill a tight-sands gas well at Bentley, on the grounds that it did not fulfill a condition of its exploration licence; namely to undertake genuine and effective consultation with the community as required.

This has prompted us to enquire if Alcoa have committed the same breach of Social Licence in regard to its Wagerup and other operations.

It seems that a standard condition of any licence is that the proponent must conduct sincere consultation with the community at large and major stake holders. Failure to do so would result in withdrawal of the licence.

Alcoa have failed to conduct any meaningful Consultation with either Major Stakeholders or the Wider Community, instead they have relied on meeting with their own handpicked Community Consultative Network (CCN), a group which has an overwhelming majority of Alcoa members and is in no way representative of the Wider Community and with which there is no real consultation or discussion.

Alcoa does not have a social license from the community.

We believe that this constitutes a serious breach of the social licence conditions and all current licences should be suspended until this matter is fully investigated and rectified.

EPA LICENCE NUMBER: 6217/6 FILE NUMBER: L 80/83

Friday, 27 September 2002

Page 14 of 27 MONITORING PROGRAM-CALCINERS A 13 (a):-

"The licensee shall conduct a monitoring program which measures the parameters specified in table 3 of Appendix A at the intervals specified in table 3 Appendix A of the calciners 1, 2, 3 and 4 stacks during normal operations conditions".

Page 22 of 27 Table 3. (As specified condition A 13): Monitoring Program-Calciners:-

This table shows that:-

- All Calciners (1, 2, 3 and 4) have emission testing on exit gases.
- Calciners 1, 2, 3 Low Volume Vent (L V V) are part of the licence conditions.
- Calciner 4 LVV has been excluded from the licence conditions without explanation.

Letter to CAPS from Minister for Environment 7 January 2014 Ref: 028/13

Page 2 Para 2:-

"The DER has foreshadowed changes to the licence post commissioning."

Does this mean the current non-compliance may be covered by possible future changes?

Page 2 Para 4:-

"The works approval does not relate to other emission sources identified in the appeals and as such are beyond the scope of the appeal."

If any emission sources remain that are not monitored and addressed, any VOC reduction monitoring data will not be a true reflection of the overall emissions, rendering the report invalid.

Page 2 Para 5:-

"Alcoa is preparing a VOC/odour Monitoring and modeling Plan."

All of this is in the future and not in the current scope. The impacts are now, not in the future, but they are not in the conditions of the approval. Based on poor VOC management and monitoring at present, how can the community have confidence in future control measures?

Appeals Convenor Report to The Minister For Environment December 2012

The works approval was issued on 5 June 2013 without reference to the DEC Winter Air Study, and therefore no true indication of VOC reductions is possible.

The works approval only takes into account a select number of emission points, others which are currently unlicenced and unmonitored, identified in the appeals were judged by the DER as not within the scope of this works approval and therefore irrelevant.

How can these other emission points not be considered as unlicenced when they are unmonitored.

Why is an alternative location for monitoring the LVV necessary and justified? Does this mean the licence will be amended post commissioning?

The whole approval seems to be based on what Alcoa want to have monitored, not on the monitoring of all known VOC emission sites. How are monitoring requirements determined and by whom?

Also the works approval has been granted, placing too much reliance on information that may become available in late 2014, not on what is available now.

Alcoa proposes to verify their predictions via a monitoring program set up by them, to demonstrate whether it achieves the required VOC emission reduction. Who will validate these findings?

Whilst we welcome any efforts to reduce VOC emissions, this proposal falls far short of the requirement. The omission of Calciner 4 and its 120 TPH throughput and any other unlicenced and unmonitored emission sources make the whole exercise a sham.

NB: VOCs are only one small part of the overall toxic pollution from the refinery/ mud lakes.

Yours Sincerely

Vince Puccio Merv McDonald, AFSM

Co-Chairs Community Alliance for Positive Solutions Inc.

Proudly supported by:

SHINE LAWYERS
RIGHT WRONG.

Cc; Premier Colin Barnett MLA

Albert Jacob MLA

Jason Banks, ADG

Patrick Pearlman, EDO

Bishop Gerard Holohan

Attachment: Letter to CAPS from Minister for Environment 7 January 2014 Ref: 028/13