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**Submission Regarding Alcoa's
Wagerup Alumina Refinery Noise Amelioration Plan**

With regards to the Wagerup Alumina Refinery Noise Amelioration Plan (WARNAP), it appears that the entire strategy was based on the misconception that the boundary for Alcoa's Land Management Area A was set to reflect the actual 35 db(A) noise contour around refinery. A glance at the map showing the noise contours alone makes apparent, that these boundaries were instead set on economic grounds. At this point in time, any reflection of the noise footprint is so out of date as to render it useless in the context of addressing the requirements of Regulation 17, because progressive production increases have pushed the noise affected areas far beyond Area A.

Alcoa applied for and was granted the Regulation 17 variation due to the simple fact that Alcoa cannot comply with the night-time noise level regulation of 35 db(A). By Alcoa's own admission it cannot reduce noise to the acceptable level of 35 db(A) because:-

1. The works would be too costly;
2. There is no guarantee it would work;
3. The works would take 20 years to implement.

In two separate noise reports by Alcoa's consultant SVT Engineering, compliance was deemed too costly: The first report in 2005 showed costs of approximately \$53 million, the second report a few years later put costs at approximately \$63 million, with no guarantee that the work would reduce noise to the acceptable level. These reports also indicated that the work would take 20 years to implement.

Future expansion of Wagerup refinery with a proposed third and fourth unit will more than double the production capacity of the refinery, which will create more not less noise, as claimed by Alcoa.

The Wagerup Alumina Refinery Noise Amelioration Plan is flawed because it is based on historical data, when refinery production was between 1.5 and 2.19 mtpa.

All of the above means Alcoa cannot comply, which will mean constant breaches of their license.

Yarloop
Waroona
Hamel
Harvey
Cookernup
Wagerup
Other Impacted Areas

In addition, rail noise is completely omitted from this plan, even though it is associated with the refinery. Train movements and thus noise impacts will more than double with the expansion. How will Alcoa deal with the increased noise, which is already impacting on the environment, people's health and well-being?

Another question that arises in conjunction with the increased train movements is: How will the Australind passenger train (which operates between Bunbury and Perth and services the towns in the vicinity of the Wagerup refinery) be accommodated?

Taking the above facts into account, where does this leave the residents of Yarloop and surrounding districts if Alcoa only buys affected properties located exclusively within Area A.

Further to this, how will Alcoa deal with noise impacting its neighbours as its mining operations move southwards? How many more noise sensitive locations will be impacted by Alcoa's mining operation? How will Alcoa deal with neighbours in these new noise sensitive locations? The same as the neighbours of the Willowdale mine site? No consideration has been given as to the health impacts associated with constant exposure to industrial noise.

According to the 2011 report from the World Health Organisation, "Burden of Disease from Environmental Noise", prepared with support of the JRC: Among environmental factors, environmental noise leads to a disease burden that is second in magnitude only to that from air pollution. The indirect health effects encompass a wide range of health complications including:-

1. Cardiovascular diseases;
2. Cognitive impairment in children;
3. Sleep Disturbance;
4. Tinnitus;
5. Annoyance.

To quote from the WHO report directly; "There is sufficient evidence from large-scale epidemiological studies linking the population's exposure to environmental noise with adverse health effects. Therefore, environmental noise should be considered not only as a cause of nuisance but also a concern for the public health and environmental health".

At the request of former WA Health Minister Jim McGinty MLA, the WA Health Department obtained information on the effects of Sleep Deprivation from Better Health Vic. (WA did not have such information at hand), to advise a Yarloop resident affected by sleep deprivation caused by Alcoa's excessive noise output. This document lists the following major impacts relating to adults who lose just 25% of their regular sleep requirements:-

1. Reduced alertness;
2. Shortened attention span;
3. Slower than normal reaction time;

4. Poorer judgment;
5. Reduced awareness of environment and situation;
6. Reduced decision making skills;
7. Poorer memory;
8. Reduced concentration;
9. Increased likelihood of mentally 'stalling', fixating on one thought;
10. Increased likelihood of moodiness and temper;
11. Reduced work efficiency;
12. Loss of motivation;
13. Errors of omission (making a mistake by forgetting to do something);
14. Errors of commission (making a mistake by doing something ,but choosing the wrong option);
15. Micro sleep (brief periods of involuntary sleeping that can range from a few seconds to a few minutes in duration).

The document explains that children and teenagers are additionally impacted by the effects of sleep loss which include:-

1. A range of schooling problems, including naughtiness and poor concentration;
2. Increased problems with impulse control, which leads to risk-taking behaviours;
3. Increased risk of disorders such as depression and ADHD;
4. High School students who regularly score C,D or F in tests and assignments get, on average, half an hour less sleep than those who regularly get A & B grades.

While these are quite serious consequences, they are not considered important enough to take into account when addressing the Regulation 17 variation allowance or the extent of the noise affected area. Today, we still have residents in noise sensitive locations, both within and outside of Alcoa's Area A noise abatement zone, complaining about noise impacts. Also, there are property owners whose land lies partly within Area A and the rest in no man's land, whose health and land values are impacted by Alcoa's operations, but are trapped and unable to move away for they fall outside Alcoa's Land Management Plan.

The Noise Amelioration plan is flawed and filled with misinformation, as it is still using the 2002 Land Management Plan.

Alcoa has done no new work to comply with the Regulation 17. Alcoa is dismissing the committee recommendation of purchasing noise affected properties in the vicinity of the refinery rather than under Areas A and B, which are categories developed by Alcoa.

Reference: Environment Ministers letter Ref. # 0562/12 4/12/13.

ADDRESSING SPECIFIC POINTS OF THE PLAN

Page 1. 2. *“Alcoa’s application sought approval for noise emissions to remain at levels achieved after the noise reduction programs conducted from the mid-1990s to early 2000.”*

The following statistics clearly demonstrate that the greater the production the greater the noise and the number of complaints:-

- **July 1990 - June 1999 : 20 noise complaints, production rate 1.5 - 1.75mtpa;**
- **July 1999 - June 2000 : 93 noise complaints, production rate 2.19mtpa;**
- **July 2000 - June 2001 : 131 noise complaints, production rate 2.19mtpa;**
- **July 2001 - June 2002 : 346 noise complaints, production rate 2.35mtpa.**

Reference: “Report to the Standing Committee on Environment and Public Affairs in Relation to Alcoa Refinery Wagerup Enquiry October 2004”.

From 1995 to mid 1999 there were no noise reduction programs as there were only a small number of complaints.

A comprehensive noise management plan for Wagerup refinery was developed in conjunction with DEP mid-1999.

Reference: Alcoa Wagerup Newsletter May/June 2002.

With the production rate at the June 1999 level (when the noise management plan was developed), noise was not a major issue. Noise became a major issue from mid-2001 when production went to 2.35mtpa.

This forced Alcoa to do minor noise reduction works, such as,

- Enclosing the calciner blowers
- Installing inlet silencers
- Installing a vent silencer in the positive displacement blowers in building 44 in early 2002.

Reference: Wagerup Newsletter May/ June 2002.

Page 2. 2. *“... noise emissions to remain at levels achieved after noise reduction programs conducted from mid-1990 - early 2000”.* This is a complete fallacy, as proved by two reports from their noise consultant SVT Engineering.

Page 2. 2. *“Based on monitoring and modelling conducted by Alcoa, noise affected land has been found to be present within Area A as described by the Wagerup Land Management Plan.”*

Alcoa’s claim is misleading and has no credence, as demonstrated by their own reports. This was based on historical data associated with production levels of 1.5 – 1.75 mtpa. Little noise was emitted at this point (see complaints above). It is our contention that Alcoa

is using this data to create a 35 db(A) noise contour line close to the source (refinery), as this will reduce the buffer area and save significant cost.

Page 2. 3. *“The Wagerup Land Management Plan is a voluntary property purchase scheme initiated by Alcoa which enables people living in the immediate vicinity of Wagerup Refinery, who feel impacted by the operations to sell the property to Alcoa.”*

This statement is a blatant misrepresentation of the truth. As shown below, there is nothing voluntary about this land management scheme, and the land management scheme is an utter sham:-

1. Prior to Alcoa coming here, Yarloop was a vibrant strong close-knit community and no one had any intentions of selling their property or moving out.
2. Alcoa came under the guise of purchasing property for sunflower farms and has deceived the Yarloop and surrounding communities ever since.
3. Alcoa's divide and conquer tactics by drawing a line in the middle of a small town created division, devalued property, created fear, impacted on community and environmental health, destroyed social fabric, infrastructure, displace people, closed 90% of businesses. Alcoa owns over half of the town. Alcoa's intent is to create a buffer zone, once it has full control of Area A.
4. Alcoa has treated the residents of Yarloop and surrounding districts with contempt by developing various categories of areas to suit its own agenda, in order to maximise the bottom line (dollars), without any regard as to how it would impact on people's health and the environment.
5. Area A: Alcoa pay unaffected market value +35% plus \$7000 relocation costs.
6. Area B: Alcoa pay unaffected market value only, as it is outside their noise contour line, yet by Alcoa's own admission the noise is still audible. The property market in the Yarloop district was devalued as a result of Alcoa selling on purchased properties at discounted prices e.g. properties up to \$100,000 would be discounted by 10% and those over \$100,000 would be discounted by 15%, thus creating fear of losses and forcing residents to sell and leave.
7. Supplementary Property Purchase Program (SPPP): This was another failed attempt at the land management process, covering properties outside of the A and B Areas. Both Alcoa and the Government believed that just a handful of property owners would sell. However approximately 400 property owners applied to sell their properties. Again this demonstrates that people were concerned about their health, environmental impacts and devaluation of their properties.
8. Farmers with properties inside and outside Area A face further issues, as Alcoa is only willing to buy the portion of land that falls within Area A. One such land holder was offered a special deal using the SPPP, but he was given only a very limited time to accept.

Page 5. 3.1. *“Alcoa will not operate outside of the existing Land Management Plan. Since this has been the basis of previous property purchases it is not fair to change the process.”*

Alcoa has already bought properties outside the existing land management plan, yet Alcoa does not consider it “fair” to change the process!

To add insult to injury Alcoa has purchased land close to Harvey, well outside of the designated land management area. This reveals that if it is in Alcoa’s interest, Alcoa will purchase the property, thereby creating further division and uncertainty.

What is not fair is the destruction of people’s lives, their displacement, impacts on health, environment, town’s social fabric, closure of businesses, destruction of infrastructure and devaluation of property etc.

Alcoa should have thought of this long before going down this path of community destruction. This has nothing to do with fairness, it has to do with Alcoa saving money and putting profit before people.

There is nothing new about the Wagerup Alumina Refinery Noise Amelioration Plan. The plan mimics the 2002 Land Management Strategy, which at the time pitted neighbour against neighbour. **There should only be one formula for all affected areas in Yarloop and surrounding districts.**

Page 5. 3.2. *“Use of Best Endeavours”, what does this mean? How does the community know that Alcoa has used Best Endeavours? Who will judge what these are?*

Page 5. 3.2. *“Alcoa is committed and willing to buy the remaining privately owned properties within Area A, but will not operate outside the existing land management plan since this is not considered fair to those that have already sold properties to Alcoa, and will erode the certainty that the program aimed to achieve, since implementation began in 2002.”*

The land management programme has failed and has not achieved a fair outcome for residents around the Wagerup refinery. Many people had to put their hand in their own pocket, cash in their superannuation etc. in order to escape the toxic emissions and excessive noise, to put a roof over their heads. These people should be compensated retrospectively.

Alcoa is only protecting its own interest by making statements about fairness; the Land Management Scheme implemented by Alcoa was never fair and has failed the community miserably.

Page 5. 4. The use of acoustic treatments is of little use, as many of the homes are of weatherboard construction, up on stumps, and no treatment would adequately reduce noise levels. Also consider that people living in these homes may require a window open in the heat of the summer and all have a common law right to peaceful enjoyment of their property, including gardens. A DEC (DER) noise specialist visited a noise affected property and could offer no solution to the problem. Independent SPL readings have shown regular night-time refinery noise levels well in excess of 35 db(A) and even above the proposed

Regulation 17 level of 47 db(A) at properties in the Yarloop town site, well outside of the Area A boundary.

In summary, this facility was built in the wrong place: it can never co-exist with the local community because of the geographical meteorological anomalies, coupled with uncontrollable chemical and noise emissions. To allow an increase in noise emissions to 47 db(A) will further impact the environment of the community, and these residents need to be protected at all cost. The proposal favours Alcoa at the expense of the people. If Alcoa cannot comply with the regulations, they need to be held responsible to move residents out of harm's way. Alcoa should be required to buy out all these impacted properties with full compensation plus relocation expenses and backdate this to cover all those residents who were previously impacted and forced to relocate without assistance.

The noise report of the mid-1990s to early 2000 should not be used, as it does not reflect the true current noise levels associated with the planned expansion of the refinery. A new study to determine the current noise affected area and the effects of further expansion should be commissioned, prior to the granting of the Regulation 17 variation or other permits and licences.

SOLUTIONS PROPOSED BY CAPS INC.

This submission relates to the WARNAP, therefore the primary focus is noise. The adverse health impacts associated with noise pollution have much in common with those associated with toxic pollution. CAPS has taken a holistic approach in framing the following proposed solutions, taking account of the entire range of inseparable issues.

1. Complete an independent longitudinal health study (10-15 years) before the expansion (unit 3) goes ahead. Conducted by a suitably qualified and experienced person, independent of Alcoa and reporting directly to the Minister for the Environment rather than the Department of Health or any other Government Department. (Recommended by the EPA in 2005).
2. Have Alcoa follow through with commitments made to the Government, as required by the EPA in its 2006 Air Quality Study, that is on public record (5years ago) and explain why this has not happened. (Study has been peer reviewed by National Oceanic of Atmospheric Administration (NOAA) USA. Plus subsequent publication Royal Meteorological Society. Also radio press release on these results in Queensland).
3. The health of people living in impacted areas who are under the age of five years and over the age of 70, plus those with compromised health, needs to be investigated, as these are people most vulnerable to health effects from pollution. The government must ensure that these people are encouraged and assisted with compensation to relocate.
4. Set up a land use plan that recognises the need for a realistic industrial buffer to discourage population within a minimum 10 km radius.
5. A proper exit strategy needs to be put in place with appropriate compensation for those who have to move from, or who have already left the area at a loss, due to the current industrial and land management practices.

6. All of the above should be funded unconditionally by Alcoa and all reports need to be made to a third-party independent of both Alcoa and Government Departments.
7. CAPS Inc. is able to address secondary issues by drawing up MOUs with Government departments, as we have in the past with the DEC Air Quality Branch. This will rebuild trust and cooperative ways to work towards win – win outcomes.
8. The creation of a new town, as recommended by CAPS Inc., provides a place for displaced residents to live with a lifestyle and quality of life equal to that they have left, close to family, friends and their employment. As Wagerup continues to expand, it will impact on a larger area including communities from Harvey to Waroona and residents will require relocation. The Government and Alcoa can gain a great deal of respect and kudos by building a 21st century eco–friendly community, featuring solar and other renewable energies, sustainably-designed buildings and neighbourhoods convenient to amenities. This town could provide a hub for emergency service and public transport for the area, as it would lay midway between Mandurah and Bunbury.
9. A land swap between the Yarloop Town Site and the proposed New Town Site would offer the added value of opening up the old Yarloop town site area for mineral sands mining, with future rehabilitation as a pine plantation, adding value with carbon credits. There is interest from a third party in this proposal.

Yours Sincerely

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Co-Chairs Community Alliance for Positive Solutions Inc.

Proudly supported by:



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