

31/10/2014

Attention: Waste Tyres RIS
 Policy & Regulation Unit
 Environment Protection Authority
 wastetyresRIS@epa.vic.gov.au

Storage of Waste Tyres RIS Boomerang Alliance Submission: 31/10/2014

Thank you for the opportunity to respond to the draft regulations outlined in the used tyre Regulatory Impact Statement (RIS).

Boomerang Alliance congratulates the Victorian Government on its efforts to bring waste tyres under more secure regulatory control. In broad terms, Boomerang Alliance members support tighter regulations relating to the collection, storage and processing of end of life tyres. Unsafe and unethical tyre collectors / processors that avoid legitimate business costs, associated with public health and safety, and undercut on price are the greatest threat to the legitimate industry and the environment.

In this regard, Boomerang Alliance believes the Victorian regulations are a meaningful and welcome first step. We look forward to continuing to work with industry, the Victorian government, EPA and SV to help implement the existing regulations, strengthen the regime and support market development.

Background and Context:

Boomerang Alliance campaign, The Skids: Putting the brakes on toxic tyres, works with the recyclers, collectors, retailers and importers that are committed to the legal, safe and ethical tyre recycling in Australia. Working with ATRA we have developed a safe standard along with independent monitoring of 'legitimate recyclers' who represent 100% of all ELT processing in Victoria.

Of the estimated 810 tyre retailers in Victoria just 384 use a legitimate Australian recycling service. Our advocacy is supported by leading retailers including Bridgestone Select, Bridgestone Service Centres, Bob Jane TMarts, Jax Tyres, Kmart Tyre and Auto, Beaurepaires and Summit Tyres who represent 245 (70%) of those stores using a legitimate service. All of these retailers require external verification which we provide using the ATRA / Equilibrium monitoring service.

This market driven pressure has improved the tyre recycling performance in 2013/'14 over and above that outlined in the RIS. Our current data presents the following picture of ELT destinations:

	RIS estimate (EPU)	BA Data (EPU): 2013/'14
Recycling within Victoria	2.2million	4.9million ¹
Export (supposedly for recycling)	2.9million	1.5million
Exported Retreads and seconds		1million
Domestic Seconds and Retreads		1 million

¹ This is the annual throughput of the 3 legitimate recycling operations in Victoria. It does not include volumes chipped interstate and crumbed at Tyrecycle's Victorian crumbing plant.

The Boomerang Alliance (ABN 54 152 721 302) members are:

- AFROKAB • Australian Conservation Foundation • Australian Marine Conservation Society • Arid Lands Environment Centre • Beach Patrol • Clean Up Australia • Conservation Council ACT Region • Conservation Council of South Australia • Conservation Council of Western Australia • Cooks River Alliance • Environment Centre NT • Environment Tasmania • Environment Victoria • Friends of the Earth • Greenpeace Australia Pacific • LEAD Group • Local Government NSW • Mineral Policy Institute • National Toxics Network • Nature Conservation Council of NSW
- Project AWARE Foundation • Queensland Conservation Council • Responsible Runners • SEA LIFE Conservation Fund • Surfrider Foundation Australia • Take 3 • Tangaroa Blue Foundation • Tasmanian Conservation Trust • Total Environment Centre • Two Hands Project •

Stockpiled (Mine sites and other and use sites)	6.0million	2million
Illegally Dumped &/or above ground landfilling		3million
Total	11million	13.4million²

We are confident that the combined efforts of the BA/ATRA campaign and the TSA initiative along with the proposed new Victorian regulations will see around 75% of all ELTS safely managed in Victoria. The introduction in Victoria of a regulatory regime should go a long way in fixing the used tyre collection industry and levelling the playing field for legitimate Victorian recyclers, who have typically invested between \$2 - \$10million³ in ensuring they have the appropriate fire safety infrastructure, pollution control and reprocessing machinery. It is important to note that fire, pollution and OH&S procedures alone represents as much as half of the collection and disposal cost of a passenger tyre.

The cost to safely collect and dispose of a passenger tyre in Victoria is at least \$1.85, yet by avoiding environmental and safety requirements, many 'backyard' collectors are offering prices as low as \$1.00 a passenger tyre. The table below outlines where dodgy operators cut corners to undercut the market:

Aspect of Recovery	Minimum Cost \$ per EPU		Illegal Operator's Undercut by:
	Safe	Illegitimate	
Collection & Transport	\$0.80	\$0.50	- No jockey to assist loading - No WorkCover for staff
Facilities	\$0.55	\$0.40	- Overstocking site (fire hazard - No insurance (insurance for a licenced site is as high as \$5million p.a.)
Safety & Licensing	\$0.15	\$0.00	- No fire, water or waste infrastructure - No government licences or approvals
Initial Processing	\$0.35	\$0.05	- Capital cost of shredders cost 5 times that of a baler - Illegal Operators dump whole tyres
MINIMUM COST PER EPU	<u>\$1.85</u>	<u>\$0.95</u>	Illegal operators avoid around 60c/tyre by operating in an unsafe and illegal manner

Importantly Boomerang Alliance has inspected some 20 premises/dump sites in Victoria (and over 100 nationally). It is important to note that other than the 3 legitimate Victorian Recyclers, almost no site had a compliant planning permit, perhaps 4 complied with the interim fire regulations and none had pollution control infrastructure such as site bunding, storm water shut off valves.

Equally it is important to recognise that these rogue operations are both surprisingly sophisticated and organised. Surveillance on a number of sites demonstrate that it is common to see:

- Stockpiles migrating from site to site to avoid council or state government prosecutions and penalties.
- Operators own multiple shelf companies and business names. The lessee is often a different organisation from the collector – making it easy to avoid prosecution and or cost recovery from property owners when the collector abandons the site.
- Nationally there are many examples of these operations both undertaking spurious capital

² The increased total should not be misconstrued as an increase in the number of ELTS in 2013/14. Rather it includes re-treads and second hand tyres within the definitions as they may represent a second life but also represent the same (or greater) fire and health hazards during storage and processing.

³ \$2million represents the typical cost for a medium size shredding operation – security fences and cameras, hydrants, fire hoses, site bunding etc. \$10million is representative of a large scale facility that shreds and then uses pyrolysis or a crumbing plant i.e. water storage on the site; tyres stored in a 'pool' for flooding, shut off valves for stormwater, weigh bridge, etc.

raising for supposed green investments (e.g. Carbon Polymers see <http://www.theskids.org.au/7-30-exposes-carbon-polymers/>). The cash payment nature of many waste tyre collections also sees the involvement of organised crime who launder money through these operations.

- Operations baling and exporting when the Vietnam and Malaysian borders are open and paying high prices for fuel then stockpile or illegally dump when the market slumps (as it does regularly) as they do not have the revenues to process the tyres they have received.

This means it is critical that any licensing regime makes sure there is sufficient information to ensure a proposed licensee, its Directors and Officers are fit and proper persons and that the license has a financial instrument and/or sufficient capital investment / asset base to be able to undertake a site clean-up consistent with the size of the organisations collection base.

We are also concerned that the environmental impacts of dumped tyres and tyre fires are significantly underestimated. While hard to put a cost on the pollution that can be caused from ELTs is hard to quantify it is important to quantify the environmental pollution associated with ELTs. The Basel Convention “Revised technical guidelines on environmentally sound management of used tyres” November 2008 identifies the following:

EcoToxicity (Page 14): In 2003, tests conducted by Birkholz in California using rubber crumbs taken from a site where the tyre had been disposed showed toxicity to: bacteria, invertebrates, fish and green algae. After three months, new samples were tested, demonstrating a 59% reduction in the toxicity detected in previous tests.

Materials released through fire (page 14): A wide variety of decomposition products is generated during the process of combustion, including:

- (a) Ash (typically containing carbon, zinc oxide, titanium dioxide, silicon dioxides, cadmium, lead, and other heavy metals);
- (b) Sulphur compounds;
- (c) Polynuclear aromatic hydrocarbons – PAH’s;
- (d) Aromatic oils;
- (e) Carbon and nitrogen oxides;
- (f) Particulates; and
- (g) Various light-end aromatic hydrocarbons (such as toluene, xylene, benzene, etc).

Toxic constituents contained in tyres Basel Convention Table 7 – Annex I

Basel Constituent	Chemical Name	Content (% weight)	Content * (Kg)	Applicability or Annex III
Y22	Copper Compounds	Approx. 0.02%	Approx. 0.14 g	Part of steel: in metallic non-dispersible form as listed in Annex IX entry B1010. Not exhibiting any annex III characteristics.
Y23	Zinc Compounds	Approx. 1%	Approx. 70 g	Whole tyres do not present any of the characteristics H1 – H12 contained in Annex III of the Convention H13 is only assessed for leaching of Zinc which is not over thresholds . (see Chapter III)
Y26	Cadmium	Max. 0.001%	Max. 0.07 g	Not in a quantity identified as giving to the waste any of the characteristics contained in Annex III
Y3 1	Lead Lead Compounds	Max. 0.005%	Max. 0.35 g	Not in a quantity identified as giving to the waste any of the characteristics contained in Annex III
Y34	Acidic solutions or acids in solid form	Approx. 0.3 %	Approx. 21 g	As a natural fat has extremely low acidity and cannot be classified as an hazardous acid under the terms of Annex I Y34
Y45	Organohalogen compounds	Content of Halogens Max. 0.10 %	Content of halogens Max. 7 g	Not having characteristics pursuant to Annex III

	other than substances in Annex to the Basel Convention			
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While relatively small these toxics are a significant consideration in some of the larger stockpiles around Victoria. For instance with some 9million EPU dumped at Stawell over a considerable period of time the site represents a storage facility containing:

- 6.3tonnes of zinc;
- 3.15tonnes of lead; &
- 63tonnes of halogens.

Key Issues:

1. Unidentified Costs and Benefits

The current trend to stockpile ELTs obviously has a significant impact on the Victorian waste levy avoidance and/or reduction in incomes to the productive Victorian Economy. We believe that there are a number of key economic impacts not fully considered in the Cost Benefit Analysis of the RIS:

- Waste Levy Avoidance implications. By our estimates there have been some 15million EPUS illegally dumped or stockpiled over the past 2 year recent years (and not cleaned up). This represents around 127,500 tonnes of waste. Lost waste levy revenues amount to some \$6.375million. If actually processed by local recyclers the Victorian economy GDP would have been increased by some \$13.5million over the past 2 years.
- Property Damage. Somewhere between 80 – 100 sites have had tyres dumped and abandoned by the collectors. Typically one of these sites incur costs for general property damage; property owners having to bear site clean-up costs; and lost rental income while cleaning up. These sites can spring up fast. For example in just 3 months a site At Pinkenba in Brisbane saw around 500,000 EPU dumped. The costs incurred by that property owner are in the vicinity of \$1.3million; to recover those costs represents the rental income of the property for the next 3-5 years.

Similarly Boomerang Alliance reviewed the costs associated with 3 small industrial properties occupied by rogue collectors in Western Melbourne. On average these property owners: spent an average \$11,000 in repairs to the site (fencing damage, repair of walls and windows, pest control etc.); incurred a cost of around \$16,200 to remove abandoned ELTS; and lost rental incomes of \$9,600 while remediating the site. This represents a cost of \$38,800 per dump site or some \$3.1 - 3.9million to the Victorian Economy.

2. The Proposed Tyre Storage and Fire Regulations

We understand and support that the proposed regulations are a timely and effective first step to bringing the problem of waste tyres under control, and that any further action requires more time to consider amendments to the legislation rather than amended regulation. To this end we have provided feedback on the RIS, the broader environmental regulatory regime that associate with waste and recycling necessary and ‘whole of government’ considerations.

Threats that may emerge from the proposed approach:

- a. Based on the NSW experience the imposition of a 5,000 EPU threshold for licensing will, obviously, restrict the chances of a catastrophic event i.e. a fire at a huge facility. However, in NSW we have also seen serial offenders adopt a de-centralised collection approach where there may well be more fires (if of a smaller nature). NSW Fire and Rescue provided our organisation with information showing there were some 328 fires involving tyres between 2008 and 2013.
- b. Ross River Fever and Barhmah Forest Virus are 2 vector-borne diseases that can (and are) spread by common mosquitoes found in Victoria.

It is important to understand that the size of a stockpile is not the key factor when considering the threat of tyres as a threat for the spread of Vector borne disease. The number of stockpiles allowed to reside in outdoor locations and their proximity to workforces or residential populations is the key aspect to increase the threat. The potential to see the number of stockpiles found around the state increase significantly is a risk associated with the proposed approach.

While management of vector borne disease threats are generally seen as a local government or health department issue the community views bio-security issues are a core function of environment protection.

- Migration of waste tyres from interstate to Victoria. Our studies into how both Stawell and Numurkah stockpiles came about highlighted a number of things. One of which is that dump sites grow very fast and the second being that it is viable for rogues to transport interstate to avoid disposal / processing costs. Some 20% of the ELTS at both of these sites were transported from NSW, SA and even Qld. Without limiting stockpiles within licensing and no financial instrument to charge operators for stockpiling there is a strong chance Victoria will receive as many as 5million waste EPU's per annum from interstate.

Recommendation:

- Define higher safety standards and possibly environmental bonds for larger tyre stockpiles; AND
- Utilise obligations under the Environment Protection Act to ensure collectors cannot create above ground landfills (i.e. ensure that collectors show that both have a market for supposed recycle and are regularly accessing that market). AND
- Mount a rigorous inspection and enforcement regime to consider whether stockpiles on leased private property are in fact illegal dumping.
- Reduce the proposed licensing threshold from 5,000 EPU's; OR
- Require small outdoor facilities and any long term stockpiles (e.g. Stawell, Numurkah, Marungi, Broadmeadows) to have a fumigation regime to eliminate vector-borne disease threats

Further, it is important to also ensure fire safety regulations and management guidelines are extended to all tyre storage facilities not just ELTS as:

- There are as many as 5million new tyres stored in Victoria. As much as 20% of new tyres are offered to market by underfinanced parallel importers and rogue retailers who ignore their obligations; AND
- Are increasingly exporting ELTs to create a 2 way logistics loop with their import operation.
- Many dodgy tyre collectors mask as second hand tyre dealers or re-treaders;

Stockpile Limits

The proposed regulations should be accompanied by enforceable guidelines to extinguish ongoing risks. Key Issues that should be included in the guidelines should consider:

Stockpile Management:

- Stockpile rotation and turnover – similarly to other waste like wood and mulch; the threat of waste tyres increase the longer they are left in a stockpile. In particular the chance that a tyre will become a mosquito breeding ground becomes a threat if it has been allowed to remain stored outdoors for more than 10 day (the time for the water to stagnate and a mosquito to lay eggs).

Similarly, stockpiles that are allowed to sit for extended periods see the tyres becoming clogged with leaf litter, dry grass and generally.

- Increased fire infrastructure for facilities storing larger amounts of tyres – obviously the degree of risk associated with tyre storage increases depending on the volume of material on a site. Licensing conditions should reflect the increased fire, health and environmental risk of larger stockpiles.
- Similarly, the manner in which tyres are stockpiled significantly increases both the fire risk and the difficulty to control / extinguish a fire once it happens. We believe that the most instructive and

relative advice available internationally is ‘The Ring of Fire Revisited’ A publication produced by the Office of the Chief Fire Marshall in California. It provides the following guidance:

Bundling/Bailing – This process clearly reduces the space required to store tyres and reduces interior spaces decreasing potential wildlife and insect habitats. However, studies have shown that even after 6-months of compression, when the bundled tyres are released the tires spring back to their original shape. In a fire, the steel wires holding bale together are broken by high temperatures and pressure from the bundled tyres. As the tyres quickly return to their original size and shape, oxygen and fire are drawn into the interior space of the tyres fuelling the fire like a bellows.

Shredding – In this process tires are ripped and shredded into smaller pieces by a shredding machine. One pass through a shredding machine yields ‘single pass’ or ‘chunk’ tire material. If this material is run through the shredding machine several times. Shredding reduces tyre volume - eliminating interior air space, and pre vents water collection and breeding of mosquitoes and other wildlife. Shredded and ‘chunk’ tyre pile fires tend to be less intense and create less smoke than whole tire pile fi res. The flame height is no more than 1 to 3 feet and can be extinguished with a fog pattern hose stream.

To this end we recommend that the regulations / guidelines should reflect both the volume on site and the method of storage. E.g.:

License Threshold	Method of Storage	Fire	Pollution Controls
< 10,000 EPU	Baled	- Hydrants	- Bunding
	Whole Tyres	- Fire Hoses	- Stormwater shut off
	Shredded	- Security Fencing - Alarms	- Security Cameras
10,001-40,000 EPU	Baled	- Not Permissible	- Bunding
	Whole Tyres	- As Above + - Limit on no. of whole tyres on site - On site water storage - Increased setbacks from boundaries	- Stormwater shut off - Security Cameras
	Shredded	As per <10,000 EPU	- Bunding - Stormwater shut off - Security Cameras
40,001 > EPU	Baled	- Not Permissible	
	Whole Tyres	- As Above + - Personnel onsite after hours - Ability to flood stockpile	- Bunding - Stormwater shut off - Security Cameras
	Shredded	As per <10,000 EPU - Ability to flood stockpile	

Residuals:

No matter what provisions in the regulation allow operators to stockpile on site, there must be strong regulations on the production and disposal of residual waste. Some operations deliberately create a large residual to pursue a high order of product (e.g. fine crumb operations can sometimes have a residual waste that represents 40% of a tyre and/or stockpile waste on site to avoid costs (for example there is one Melbourne site with a huge nylon stockpile on site). This allows an operator to undercut other legitimate

operators and undertake deliberate waste levy avoidance while both increasing the risk of fire (we would regard bales of nylon as a potential ignition source for fires) and creates land pollution and litter around the site.

Above Ground Landfilling / Illegal Dumping:

Boomerang alliance believes it is critical the Victorian Government consider mechanisms that deter an operator from undermining the market by collecting without any method or source to dispose of waste. There is significant risk that not limiting stockpiles will see this occur. There are potentially 3 mechanisms to address this:

1. Apply the waste levy to materials stockpiled without any apparent market
2. Prosecute the operator under illegal dumping provisions
3. Issue clean up notices due to the need for increased infrastructure for growing stockpiles.

Additionally it is important to apply environmental bonds or other instruments to poorly capitalised operations i.e. collectors who export; baling operations etc. An environmental bond or other financial surety should be required of: all balers; any operation storing more than 10,000 EPU of whole tyres for a period of more than 48 hours; sites without a long term lease and/or a planning permit (many sites are occupied via pre-existing / non-conforming uses i.e. approved via old Junk Yard provisions or occupied the site without a permit over the long term).

Consideration should also be given to waste generators whose sites combined with rubber materials present a significantly increased risk. The Hazelwood mine fire in February this year highlights the fact that combining vulcanised rubber equipment and waste with a brown coal operation can dramatically complicate fire management Relationship between stockpiles and increased hazards e.g. coal mining sites. To this end there are 2 important considerations

- A. Consider enforceable guidelines for sites to outline other combustible materials stored in the site as waste rubber and ELTS e.g. methane emitting brown coal and/or nylon strip extracted from some tyres.
- B. Include other large volumes of other vulcanised rubber waste (in particular industrial conveyor belts within the regulations.

Tracking

The draft regulation also adds tyres to Schedule 1 of the Industrial Waste Resource Regulation. This allows the licensing of the handling of waste tyres. However it does not bring waste tyres under the ambit of the tracking powers.

The NSW approach does this because it creates an obligation on the waste producer to not only be responsible for what happens to their waste but to exert their market power on transporters and those that handle the waste. As is obvious from the Victorian and other state's experience waste tyres 'leak' from the generator to legitimate disposer chain and it is only through effective tracking measures that such leaks can be closed.

Boomerang Alliance accepts this may not be possible in the first draft of regulatory reform regarding waste tyres but believe that, at the minimum, all licensed operators ad waste generators should be required keep detailed records regarding where they disposed of their material. Not keeping records and accepting minor administrative penalties is a primary way rogue operators continue to exist as the fines do not match the savings they make by not lawfully disposing. Penalties should be sufficient to ensure this loophole does not flourish in Victoria.

3. Need for Increased diligence and rigorous co-ordinated enforcement

It is an established fact that most tyre fires occur in suspicious circumstances and that arson is a common cause of the fire. Equally, when governments crackdown there is a tendency to burn or dump in an attempt for operators to avoid any liability for their stockpiles.

For example in the “Rings of Fire Revisited”, the Office of the Chief Fire Marshall in California notes:

“Arson is the leading cause of tyre fires. When enforcement of state and local laws gets the attention of waste tyre pile owners, the piles suddenly catch on fire.” And further identifies six signs that a waste tyre company is in trouble include:

1. Increasing Piles in height, width, and volume.
2. Permit/code violations—cited by inspection/enforcement authority.
3. Change in ownership—a shell game for owner liability.
4. Company files for bankruptcy—can they afford to clean-up the pile?
5. High personnel turnover—inexperienced new employees.
6. Loss of permit—due to code violations.

It is critical that both the state EPA, Fire Authorities and local government are on high alert when the new regulations are finalised and being implemented:

- A co-ordinated effort of inspections and monitoring are critical to ensure there is not a sudden flurry of fires;
- That regulators are prepared to take immediate and decisive action where there are non-compliant sites collecting and storing ELTs.

4. Conclusion

While the proposed regulations will require ongoing review and strengthening over time, they are an important and effective first step. We congratulate the Victorian Government, EPA and its officers on their efforts.

Should you require clarification, input or support in this endeavour please do not hesitate to contact the writer at any time.

Regards

Dave West
National Policy Director
Boomerang Alliance

Attachments:

Rings of Fire Revisited

Basel Convention Revised technical guidelines on environmentally sound management of used tyres