

CONTAMINATED SITES BILL 2002

Second Reading

Resumed from 17 September.

HON JIM SCOTT (South Metropolitan) [10.07 am]: When my remarks were interrupted yesterday due to time running out, I was talking about an issue that I think is very important and that would improve the legislation immensely. The contaminated sites legislation has a problem, as currently framed, in the case of an orphan site; that is, a site on which contamination has occurred but that has passed to new owners and no-one seems to own the problems that were created by the previous owners. That could create a problem for the new owners, because they could be required to employ expert consultants to provide reports on that site and might then have to pay a considerable amount of money to clean up that contamination, for which they were not responsible and of which they might not even have been aware. However, the people who had caused the contamination of the site would be allowed to get off, dare I say it, scot-free, because appropriate legislation was not in place at that time to prevent that type of contamination from occurring. That is not a reasonable proposition. The United States has established what is called a Superfund to which all polluting industries are required to contribute so that this sort of problem can be dealt with. What I will be proposing is something that I believe the Government has possibly looked at also. I will be proposing an amendment to ensure that rather than have this difficulty of requiring proof that the polluter has committed some illegality, the polluter must show that he had permission or approval to produce and dump that waste on that land; and if the polluter fails to provide that proof, the polluter must help pay for the cost of the clean-up. That is a much fairer proposition than imposing that cost on a new owner who may not be aware of the contamination.

I believe this has occurred in the past in the case of the Omex Petroleum Pty Ltd site. It is a shame Hon Peter Foss is not in the Chamber, because he had some linkages with that site when he was the minister responsible for this area. The original company that had occupied that site had sold part of that area to new owners, one of which was, I think, a ceiling company, which then proceeded to knock down what looked like a mound in the backyard of the land that it had just bought. However, it just so happened that that mound was the area in which Omex had been dumping oil waste down a hole in large quantities, and when that mound was knocked down it released a huge lake of pollution across the whole of that site, and I believe it even ran onto the roads and with heavy rains was washed down the streets and became very widespread. The person who had bought that site was up for a huge cost, and I understand, although I am not certain, went bankrupt as a result. The State Government has had to put millions of dollars into cleaning up that site. That money could have gone towards health, education and police. When I have asked people about the cost of cleaning up known orphan sites around the State, it has been put to me that the cost would be in the vicinity of \$500 million. That is a huge amount of money to pay for people who have not done the right thing. It cannot be said that people 50 years ago did not know that arsenic and mercury and a range of other incredibly poisonous things that they were using were not pollutants. Some pressure should be placed on those people to help pay for the cost of the clean-up. The cost should not have to be borne by the people of Western Australia or the people who unknowingly buy land that is polluted.

The amendment that I am proposing will require the industries or individuals who were responsible for the pollution to prove that they had permission to do what they did with their waste or run-off; and, if they cannot prove that, they will be required to help pay for the clean-up. It is an outrage that people have gotten away with polluting land purely and simply because there was not a law to control them at the time. We need in this legislation to put the onus of proof on those people to show that they had permission to deal with their waste and polluting material in the way in which they did. Members of this House would be aware of a number of instances in this State in which people were clearly aware of their actions. Some of those people are difficult to trace, but perhaps in the past we have not tried hard enough to find the perpetrators of some of the pollution that has occurred. I recall a serious incident in Dianella in which large amounts of pesticides were poured down a drain and polluted the ground water over a very large area. In fact, some of the people who used that ground water became very ill, and it is suspected that at least one person died from that poison, yet the perpetrators of that appalling pollution were not required to take any responsibility. I think in that case the difficulty was proving that they were responsible. That example may not fit precisely what I am talking about here, but we need to give the Department of Environmental Protection greater power to tackle contaminated sites in this State on which people recklessly dumped material purely and simply because there were no environmental laws at the time to prevent them from doing that, and when at the same time they knew that those products could cause damage to people's health and to the environment.

Although I support this Bill, because it is basically a very good Bill, this is a glaring weakness in the Bill. It is unfair and unjust to require people who buy land, not knowing that it is polluted, to pay for the clean-up, when the people who should have to put their hands in their pockets to pay for the clean-up will be allowed to escape

responsibility. I commend the Government for bringing on this legislation, and at this point I have to rush off to make sure my amendment is written up properly.

HON ROBIN CHAPPLE (Mining and Pastoral) [10.20 am]: I rise also to speak in support of the Bill. I have a significant concern; that is, one of the most seriously contaminated groups of sites in not only Western Australia but also Australia is seemingly not covered by this legislation. I am having a great deal of trouble clarifying that position. In that regard, I will move amendments to clarify that the issue of tailings dams in Western Australia is covered by the contaminated sites legislation. I will provide members with an overview of the current situation and then I will comment on the problems pertaining to tailings dams.

To my knowledge there are in excess of 300 tailings dams in Western Australia. They vary in size from half a square kilometre to about six square kilometres. The extrapolation of some figures shows that tailings dams in this State potentially cover approximately 600 square kilometres of the Western Australian countryside. Therefore, as they are probably some of the most polluted and contaminated sites in Western Australia, it causes me a great deal of concern that they might not be covered by this legislation.

Let us try to establish some of the parameters of why there is pollution in tailings dams, where it comes from and what the impacts of them can and have been. Firstly, tailings dams operate in the bauxite, gold and nickel industries, as well as a number of others. They often contain xanthates, cyanide residue from gold mining, previous mercury residue from gold mining and arsenic. Also, large amounts of hydrochloric acid are often used for buffering purposes and a significant level of sulphuric acid is used, especially in old uranium piles. Some areas in the State have significant uranium tailings deposits as a result of exploration in the 1960s and 1970s.

The Commonwealth Environmental Protection Agency, which is the federal body that regulates tailings dams, indicated that best practice of tailings dams meant that they were supposed to be lined with an impervious lining of either plastic, rubber or clay, to inhibit the through-flow of aqueous material into the ground water. That has never come to fruition. I know of only one tailings dam in Western Australia that has a clay lining. Many others have underdrains, but mostly they are inefficient. Although all the licences state that there shall be no release of contaminated material from a tailings dam below, around or into the environment from those systems, the Department of Mineral and Petroleum Resources, for reasons of stability, identified that they all must leak. Our tailings dams are designed on the basis of consolidation by evaporation and/or leakage. In that regard, tailings dams in Western Australia do not even touch on Australia's best practice guidelines. As I have already indicated, Western Australia has some 300 tailings dams, which are polluting the environment. They do so because of the need to consolidate and to make a sound structure, but also because the tailings dams are not designed for the purpose of retaining all constituents within them.

What are the potential impacts of tailings dams and their associated problems? We have obviously been made aware of the issue in Romania where Esmerelda Exploration Ltd caused a major problem. Tailings dams have had a significant impact in Western Australia. Probably the most notable was the Windarling issue whereby due to the emission of hydrogen sulphide gas, which is the same gas used in many places in the Holocaust, 60 000 budgerigars were killed in one incident in 1985 while flying over a tailings dam. More recently, in Colorado a 17-mile stretch of the Alamosa River was contaminated. The American Superfund is paying to fix that contamination. There was an issue in Northparks in Australia in 1995, which involved the deaths of thousands of birds as a result of cyanide poisoning. There is a debate over whether it was cyanide that killed the birds or whether it was the buffering agent, which was hydrochloric acid. I note that anyone who went near Northparks was immediately tested for cyanide poisoning. People who are poisoned by cyanide have only a short time to get remedial attention - about three minutes. In Montana USA, a huge leach mine owned by the Pegasus corporation collapsed into the regional farmlands. In Nevada 245 000 gallons of cyanide leached into two creeks. Tailings dam material is leaching into the salt lakes and ground water in Western Australia. It is interesting that in Kalgoorlie one of the reasons the region's water - which is hypersaline - can no longer be used for the mining industry is that it is so contaminated by cyanide and xanthate that it inhibits the use of that water in the process systems. Wherever there is a tailings dam, there is a massive problem.

It is interesting to note that at some stage in the past there was hope that we might, at a federal level, get some control and management over tailings dams when the federal Government considered creating a draft pollution inventory in 1997. That pollution inventory specifically excluded one of the most significant pollutants in this country - tailings dams. Whereas every contaminated site or residual industrial site is on a pollution inventory, a massive land cover, which is contaminated - tailings dams - is not covered. Therein lies the rub because it is not covered by the national pollution inventory and it certainly appears that it will not be covered in any way, shape or form by this legislation. As I said, I have already mentioned that I will move amendments to ensure that tailings dams are covered in the contaminated sites legislation.

What have we tried to do about tailings dams in Western Australia? The Minerals and Energy Research Institute of WA conducted a fairly simplistic review of tailings dams in 1996. At that time the Senate established an

inquiry into the nature of these contaminated sites. The committee began investigating gold mining effluent and the broader impacts of tailings dams, but unfortunately it ran out of time due to prorogation. However, the material produced by the Senate committee contains some very interesting information. The Minerals Council of Australia, the Association of Mining and Exploration Companies, the conservation movement and many government agencies also put a lot of work into developing some understanding of what should happen with tailings dams. Unfortunately, that failed to come to fruition, and nothing was achieved.

I served on the Minerals Environment Liaison Committee, the chairman of which was Hugh Jones from the Department of Minerals and Energy. In 1998 MELC started to develop a plan to review the state of contaminated sites in Western Australia. The objectives of that study were to determine the current tailings disposal outcomes; review the current database for tailings disposal in WA - it is not known how many tailings dams exist - review the operational and management practices of both industry and government; and make recommendations as required about operational management practices that would achieve desired outcomes. This study arose out of a report with which I was involved that was provided to the then Minister for Mines in 1994. That report highlighted that the problems associated with tailings dams had evolved over time and that the issue of tailings dams as contaminated sites was the single most important issue that had never been properly addressed in this State. The issue has never been addressed properly by the mines department or the Environmental Protection Authority.

Unfortunately, the development of that task force was impeded by problems with funding. A letter to me from Hugh Jones, the chairman, indicates that a technical secretary was required to do the necessary research work for the initial inquiry to establish the level of impact of these tailings structures, and that the estimated cost was between \$40 000 and \$50 000. MELC was an interagency, interorganisational structure. It comprised members from the Chamber of Minerals and Energy, AMEC, the Department of Minerals and Energy, the EPA, the conservation movement, the Department of Resources Development, the Department of Conservation and Land Management and the Water and Rivers Commission. It was an unfunded structure. We had a great deal of trouble raising the funds. The discussions about this inquiry went on for around three or four years. The issue of funding was always topical and at the head of MELC's agenda. Unfortunately, the issue of tailings dams, which I have said are the single largest series of contaminated sites in Western Australia, was never dealt with. There were many proposals, and they were supported by industry, agencies and the conservation movement.

Tailings dams exist not only within Western Australia but also within the region. Many of the mining corporations that operate internationally within the Indonesian area are based in Western Australia. Research I did a number of years ago indicated that about 70 per cent of all mining activity in the generic Asia-Pacific region was conducted by corporations based in Western Australia. Unfortunately, many corporations operating internationally cite Western Australia's standards as best practice. Tailings dams are not managed or monitored particularly well. Although certain mining activities are managed fairly well, the management of tailings dams has been very poor for many years. Unfortunately, we carry these legacies overseas to many places, including Ok Tedi and Lehair, in the Asia-Pacific region. Many of our neighbours have quite a degree of concern about the practices of Australian mining corporations.

I refer to a paper titled "Understanding Best Practice Tailings Management" written by Peter Waggitt, the principal environmental scientist in the Office of the Supervising Scientist, Environment Australia. I do not know the date of this document, but from recollection I believe it was presented around 1995 to a major conference in Darwin on best practice in the mining industry. I touch on an issue that he identified -

The two main areas where the community have concerns are the past tendency for mining to be a one-time user of land, leaving resources despoiled and quarantined from subsequent use; and their perception that all mines lead to pollution and degradation of the environment as a result of poor waste management practices. Tailings are one of the most significant wastes associated with mining. World production of tailings is huge,

One estimate is that each year 5 000 million tonnes of tailings waste from around the world is stored on the surface of this planet. I have already indicated that the volume of pollutants contained in and the physical size of tailings dams mean they are probably the most significant contaminated sites in Western Australia. The paper continues -

Some non-metallic mineral production, mineral sand beneficiation and coal upgrading also produce substantial volumes of fine-grained wastes that we might consider as tailings, perhaps as much again as the metallic extraction processes. These wastes certainly require similar management. Finally, the residues from power stations and blast furnaces, such as fly ash and slags, may also be considered in the context of tailings management.

They are also contaminated sites -

Finally, there are also many millions of tonnes of tailings and similar process residues remaining from former operations that require management and should be included in our consideration of tailings management.

Those people who from time to time visit my electorate, particularly the Sandstone area, and see the moonscape-like environment that is a result of discarded battery and tailings disposal would find it horrendous that we leave this material blowing in the breeze. The aim of the mining industry is to manage resource recovery in tailings dams at minimum cost. As part of the Golden Gecko technical panel, with which I evaluated many of the tailings structures around Western Australia and also environmental best practice, it was interesting to note that the average disposal cost per tonne of tailings in an aboveground facility is about 60c. One of the issues that has often been raised is why these tailings do not go back into the void of the pit from which they were generated. The argument has always been that if that material is put back in the pit from which it was generated, it would inhibit any further extraction of minerals that might be left in the pit that were uneconomical at that time.

One gold mine - I am having trouble remembering its name; I think it was not far from Newman - decided that because of the cost impediment involved with tying up land and providing a bond for that land, it would use the old pit for tailings disposal. It did some sums and worked out that it would probably be cost effective. It thought that it could get the price of disposal down. The pit was a contiguous geological structure, so it was impervious. The material going into it was in effect going into a sealed system. After the project was completed, two things became apparent. In carrying out environmental best practice by placing the tailings in the old pit, the mine reduced its deposition rate from 60c per tonne to 6c per tonne - a very significant saving on its costs and with no pollution. However, it had an added win. While it was placing a cyanide-contaminated constituent into an old worked-out gold pit and extracting the surplus water from underdrains, it suddenly found that it was getting a huge gold return from its tailings dam. The residual cyanide in the tailings structure, which was in the pit, was releasing residual gold that had been captured in the walls of the pit. Its deposition rate went from an original cost of 60c per tonne to 6c per tonne. Then it found that it was making several hundred thousand dollars on literally recycling the water, so its net cost was zero and the environmental benefit was maximised. This all happened by accident, not by design. By including tailings dams in the contaminated sites legislation, we will be able to encourage the industry to look at other options, which might not only be in its best interests, but also have an economic windfall.

I also refer to a recent paper by Hugh Jones, who was for many years the Chairman of the former Department of Minerals and Energy. He gave a talk in Brazil on tailings management for decision makers and the lessons from the great tailings disasters of the world, which he made on behalf of the Australian Centre for Geomechanics. He states in his paper -

The process of mining is essentially a process of rejecting waste so that the desirable products are selectively made available. The term "tailings" is often defined as waste products that are generated during the recovery of minerals from their ores. Typically, the original rock has been crushed or ground in a wet recovery process.

That slurry is then distributed by pipes or many other processes to the tailings structure. He continues -

With such a large amount of material to safely dispose of it is not surprising that some accidents periodically occur.

Although the contaminated sites legislation is in many ways obviously in response to the Bellevue issue and others, we must understand that we are dealing with millions of tonnes of highly toxic fluid material that can have not only huge environmental impacts but also huge physical and social impacts and can cause the associated deaths of nearby residents. He went on to say -

The whole concept of acceptable risk is a subject in its own right and while I do not intend to cover it at length here but I would say that generally speaking an acceptable risk for people engaged in earning money is lower than an acceptable risk for a casual bystander.

A casual bystander in relation to tailings quite often is the person who gets buried under it. Hugh Jones gave a number of examples in his paper. The interesting one was the Aberfan disaster, which occurred in south Wales in 1966. Those members who have some European or British background most probably remember that disaster. He continues -

This disaster resulted in 144 people losing their lives of whom 116 were children between the ages of 7 and 10.

There are some massive tailings structures in Western Australia, and some are very close to residential areas. Over geological time, they will all become unstable at different stages of rainfall events. While a mine is in production, the proponent has a responsibility to manage that tailings structure. As such, the proponent installs underdrains and retrieval drains around the perimeter. Most mines have bores operating all the time to extract

the water-head that builds up in an aboveground structure. It is a very fine structure - it is very similar to quicksand or toothpaste - which, when water is added, becomes a huge hydraulic problem. When the mining industry finishes with an area, it commits to rehabilitate the area. It fills in the drains that surround the pits and usually puts some vegetation capping over the sides of the pits. In most cases, it cannot do anything with the tops of the pits because the pits are so contaminated or saline that very little will grow on them. Quite often a hard rock covering will be put on them to stop emissions blowing off the dam. However, if there are a series of significant rainfall events over time, that whole structure will become fluid. It is interesting to note that when a company called Kaltails went back to the goldfields to start reprocessing the waste from the old hand-built tailings dams - the old miners literally trundled up the hill with their wheelbarrows and tipped the tailings out on the top of the hill - its miners did not get very far into the tailings structure before they found that it was completely sodden again. It had never really dried out. It was still in a dangerous state. Therefore, they gave up mechanically returning this material for reprocessing and started using water cannons to literally reliquefy material. It was the safest way they could do it. We must understand that even after a lifetime in the goldfields - 100 years or so - those tailings dams are still in an unstable state. I am saying that these contaminated sites - 300 or so of them - that cover possibly 600 square kilometres of Western Australia and are in potentially unstable states must - I repeat must - be included as contaminated sites. They keep slipping through the net. They exist in isolation. There is no program within the Department of Industry and Resources or within the Environmental Protection Authority to deal with them, and they are not even on the pollution inventory. On that basis, I give notice that I will move a yet to be drafted amendment on the inclusion of these structures - one of the most dangerous and toxic structures in Western Australia - into the contaminated sites legislation.

HON KIM CHANCE (Agricultural - Leader of the House) [10.51 am]: I note in closing this stage of the Bill's progress that the Government and I appreciate the broad support that has been shown multilaterally for the Bill. It is indeed an important Bill. I will briefly touch on a couple of the points that have been raised by honourable members during the debate on the Bill. I will begin with Hon Robyn McSweeney, who quite correctly identified Western Australia's reliance on ground water as one of the reasons that this legislation is so essential in Western Australia. Obviously, there is a range of reasons, and many of them have been explained much more eloquently than I could possibly explain them. However, I believe that this reliance on ground water by Western Australians is a key issue. Notwithstanding some of the spectacular incidents that we have had with contaminated sites - some quite dramatic - the real underlying reason for the importance of this legislation is that it is absolutely essential that we are able to guarantee present and future generations of Western Australians that the water that is so essential to their lives is not, and will not be, polluted. I certainly thank Hon Robyn McSweeney for pointing that out.

Hon Robyn McSweeney also pointed to the very high cost of remediating contaminated sites, as did Hon Jim Scott, and noted that the cost of remediation tends to be met by the taxpayer. That is a very good point, and again it supports the need for legislation of this kind.

I also note that Hon Robyn McSweeney felt that the penalties for offences, especially those dealing with non-compliance with an order, were steep - I think that is the word she used.

Hon Robyn McSweeney: I think I said mediation first before penalties are imposed.

Hon KIM CHANCE: Yes. The penalties are high, and that is a matter for the Parliament to consider. Hon Robyn McSweeney also noted that the high penalties for failure to comply with an order will act as a real deterrent. It is necessary to note that.

Among other things, Hon Jim Scott foreshadowed an amendment to do a number of things. One of those things is to protect more recent owners from the consequences of previous owners' activities. I will go into the detail of that in a short while. As a result of the amendment not being available to us now - I understand it is still being drafted - it is my intention at the conclusion of the second reading stage to move for the consideration of the Bill in Committee to be deferred until a later stage of today's sitting so that we are able to adequately consider the shape of the amendment. However, as I understand the proposed amendment, it would in effect reverse the onus of proof in that the original owner, who is the alleged polluter, would have to prove that his actions were within the law at the time, such as by way of valid authorisation, rather than the present and proposed position in which the alleged polluter's culpability is required to be proved. I do not think I am taking words out of the member's mouth.

Hon Jim Scott: No, that is pretty right.

Hon KIM CHANCE: One of the reasons submitted by Hon Jim Scott in support of his proposed amendment - I will not discuss this in any detail until we have seen the proposed amendment - is that innocent subsequent owners of a site that is later found to require remediation should not be burdened with the cost of that remediation when the situation was not known to them at the time they acquired the site. When we deal with that in the committee stage, I believe we will find that the Bill deals with that aspect.

Hon Jim Scott: That is in the future. However, thousands have already been passed on.

Hon KIM CHANCE: Okay. That will arise in the committee stage when we get to it.

I also thank Hon Robin Chapple for raising the issues that he did, particularly about contaminated sites that arise from mining operations, and in particular tailings dams and processing waste. These are important issues and we need to address them one by one. I believe that the current legislation, notwithstanding that some areas may need some refinement, either now or later, is a substantial step forward. This State, as with any other jurisdiction that has an industrial or a mining base, has a huge range of contaminated sites. I believe the accurate number of those sites and an accurate estimate of the cost of their remediation are, frankly, probably not known, and if we did know that, it would be frightening. That is not an excuse to turn our backs on those sites. We need to know where they are, if for no other reason than for the protection of future owners. Hon Jim Scott put that position very well. We need to know where they are and where our future liability is. We need to know which of those sites need to be dealt with in priority, because we all know, so huge is the cost of dealing with remediation, that in our lifetimes even the current levels of contamination will probably not all be resolved. However, we must establish which of those sites need to be dealt with as a priority.

I refer to the point made by Hon Robyn McSweeney. When sites are considered for priority account must be taken of the importance of our use of resources, particularly underground water, so that we can ensure present contaminated sites do not deny present or future generations of Western Australia the capacity to use and enjoy those vital resources.

I thank all members for their contribution to this debate and urge their further support.

Question put and passed.

Bill read a second time.