



The Lead Education and Abatement Design Group
Working to eliminate childhood and foetal lead poisoning
by the year 2012 and to protect the environment from lead
ABN 25 819 463 114

Thirty Thought-Starters on Ceiling Void Dust in Homes

By Elizabeth O'Brien, Coordinator, The LEAD Group Inc., and Manager, Lead Advisory Service (LAS)

1. Q (QUESTION): Where does the dust in ceiling voids come from?

A (ANSWER): There are numerous ways for dust to get into ceiling voids, including:

- Air pollution comes through gaps in tiles and tin roofs and moves in through any other entry point under eaves, etc. Any residue from any source of air pollution can enter the roof void, for example, from vehicle and air traffic emissions, industrial activities such as mining, smelting, paint-, plastic-, metal-manufacturing or recycling, coal-, wood- or oil-burning, incineration, cremation, fires, dust storms, aerial spraying, paint removal from auto repairers or large structures such as bridges.
- ☐ Combustion particles come through gaps in chimneys or vents from the living space, some of which have been vented into the ceiling void (instead of to the outside) for example, coal gas (town gas) burners used up until the 1950s (See "[Ceiling Dust Removalist Case Study](#)").
- Combustion particles from, for instance, cigarette smoking, gas stoves, oil or kerosene heaters, can move into the void through ceiling fan extraction vents, ceiling roses and wall vents.
- Paint removal dust particles, plaster dust, brick dust etc can enter the void from renovations or demolition in the building or in a neighbouring building. Insulation purposely placed in the void can add to the dust load especially if it degrades easily eg cellulose fibre.
- Degradation of the roofing material eg asbestos cement, slate, fibreglass, galvanized iron, can add to the ceiling void dust load.
- Decaying biological matter such as nests, bodies and faeces of the 64 pests found (according to Dr Cullen ex-WorkCover NSW) in ceilings eg birds, rats, mice, possums, insects etc can be present as dust, fur or feathers. Moulds and lichens can also grow in ceilings or on roof tiles, leaving spores.
- Residues of pesticides used to control the above could have been purposely sprayed or laid in the ceiling void.
- Debris left in the void by workers, eg sawdust, roof paint chips, building materials, lead washers used on corrugated roofs, PVC cabling, wire; or by accident, eg roof tile fragments from hail damage, charcoal from fires.

2. Q: What is in ceiling void dust?

A: A large range of contaminants arising from the above activities can be present, including:

- **Heavy metals** - lead, mercury, cadmium, arsenic, antimony, beryllium, chromium, selenium, barium, molybdenum, nickel, thallium, vanadium
- **Radioactive metals** - plutonium, uranium, thorium, potassium-40
- **Other metals** - zinc, copper, iron, aluminium, sodium, calcium, silicon, magnesium, titanium, potassium, manganese, phosphorus, tin
- **Fibres** - asbestos, fibreglass, synthetic mineral fibres, cellulose, wool, rockwool
- **Organic compounds** - DDT, organochlorines, termiticides, dioxins, PAHs (poly aromatic hydro-carbons), nitro-PAHs

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- **Biological matter** - animal faeces, carcasses, feathers, fur, plant spores, bacteria, lice, cockroaches and other insects, fungi
- **Fallout of other persistent hazardous air pollutants** - components of cigarette smoke, diesel emissions, woodsmoke, sulphur, ash from incinerators and coal- or coke-burning.

3. Q: What are the usual amounts of these contaminants in ceiling dust?

A: There is insufficient data to allow anything but general statements to be made. Most ceiling dust studies have been done to determine the contribution that a lead or copper smelter, lead mine, or paint manufacturers makes to the lead in the ceiling dust, but some testing has also been done in Sydney, Port Kembla and Adelaide to determine the effect of vehicle traffic. Most studies have only assessed the lead in ceiling dusts (exceptions are noted in the tables below) as lead is the most studied toxic substance. This is not necessarily a bad thing, as lead is widely regarded as a good "marker" contaminant ie if you measure the lead in air, water, dust, soil, sediment, wastewater, waste oil, solid waste, blood etc and find it to be at a high level, chances are that other contaminants will be present.

4. Q: Why is lead a good "marker" contaminant?

A: Measuring the lead in a contaminated substance is useful because:

1. Firstly, lead itself is toxic and therefore knowing the lead content immediately tells you something about the potential risk involved.
2. Secondly, at the points at which lead is most likely to be dispersed into the environment (ie during the mining and smelting of base metal ores and during the life of certain uses of lead (eg in petrol, paints, plastics and chemicals) lead always occurs in combination with other toxic substances. Examples are:-
 - Base metal ores such as silver, lead, zinc and copper ores all contain lead and typically also contain mercury, cadmium, arsenic, thallium, beryllium, antimony, selenium, etc.
 - In cities or wherever there is leaded petrol in use or previously in use, there will also be fallout of emissions from diesel vehicles, gas vehicles, jet-fuelled planes and non-leaded petrol vehicles (eg Nitro-PAHs, fine particulates).
 - As well as containing lead, paints can contain chromium, asbestos, DDT, mercury, arsenic, barium, etc - all these contaminants become fallout when paint is sanded, burned, chipped or chalking.
 - Particulate pollution from combustion processes other than in vehicles and smelters, will nearly always contain lead because lead is found in so many fuels eg, coal, wood, waste (as used in incinerators), crude oil, waste oil (the lead content will be higher if the oil is from an engine run on leaded petrol).

5. Q: How does ceiling void dust get into the living spaces of homes?

A: See the factsheet [Lead Safe: Lead in Ceiling Dust](#).PDF by the Lead Reference Centre (LRC - within the NSW EPA) which mentions, among other things, water damage to ceilings which may cause ceilings to crack or collapse.

6. Q: What is a "safe" or "acceptable" level of lead in ceiling dust?

A: Jason Bawden-Smith, lead assessor of JBS Environmental, answers this question with the following statement on his analysis reports:

"Ceiling Dust Biohazard Levels (parts per million)

Low biohazard <300 ppm [300 mg/kg (milligrams per kilogram)]

Moderate biohazard 300 - 2000 ppm

High biohazard 2000 + ppm

"Ceiling dust only poses a health risk to occupants, especially pre-school children, if the lead dust is accessible, that is:

- Enters the living areas through holes or cracks in the ceiling;
- When disturbed during removal or other work activities;
- If the roof void is used as a room or attic.

"Health risk is also related to the amount of dust present."

To give some idea of how much lead needs to enter the living areas of a house for there to be a contamination problem, another lead assessor (Graeme Waller of Graeme Waller and Associates) informed a ceiling dust removalist that just 2 tablespoons of ceiling dust with a concentration of 2,800 ppm (2,800 mg/kg) would contaminate a room and just 2 cups of the same dust would contaminate a whole house. Graeme uses an "acceptance criteria" of 1 mg of lead per square

metre of floor - anything above this is "contaminated". A third lead assessor, Fred Salome of CTI Consultants, also prefers the United States standards that have been set for floor wipes inside a home. If the ceiling void is going to become a floor (for instance in an attic room) then the dust should be vacuumed to give any chance of complying with the clearance level of 1mg of lead per square metre. According to Fred, if the ceiling dust is going to be disturbed (eg when a ceiling is demolished) then the dust should be vacuumed because ceiling dust is always contaminated, and testing it is an unnecessary expense. The NSW EPA's publication *Significant Risk of Harm from Contaminated Land* (released April 1999) advises that an appropriate expert be consulted in relation to dust on contaminated land.

7. Q: Does it make a difference that the lead in ceiling dust is always found in combination with other contaminants?

A: "Yes" it is significant that lead is always found with other contaminants in ceiling dust because some contaminants are synergistic ie the effect of the two together is greater than the sum of the effects of each on its own. Mercury and lead are synergistic for example. In a study by Schubert, Riley and Tyler ("*Combined Effects in Toxicology – a Rapid Systematic Testing Procedure: Cadmium, Mercury, and Lead*", Journal of Toxicology and Environmental Health, 4: 763-774, 1978) male rats were injected with an LD1 (lethal dose for one) of lead ie, the amount of lead that, when injected into 100 male rats would, on its own, normally kill only one of the rats. When an LD1 of lead was injected in combination with an LD1 of mercury, **all** of the rats died. This is called the LD100 (lethal dose for 100). Thus LD1 lead + LD1 mercury = LD100 lead with mercury.

8. Q: How much lead is in ceiling void dust in Sydney?

A: See tables below:

Levels of Heavy Metals in Sydney Ceiling Dusts, that have been reported to The LEAD Group's advisory service between June 1995 and June 1999

Suburb or Area of Sydney	Ceiling Dust Lead Levels mg/kg
Annandale	2,800 - 3,300
Balmain	3,400 - 20,000
Beverly Hills	194
Botany	841
Cabarita	3029 (as tested by JBS, same house was 2200 as tested by Woodward-Clyde)
Darling Point	2,280
Earlwood (childcare centre)	1,500 with a loading of 740 mg/m ²
Eastern Sydney hail area	1,620 (reported by resident) 500 – 5,000 (for 80 houses, reported by lead assessor)
Erskineville	4,000
Five Dock	1,900
Inner Sydney	1,000 – 2,000 (reported by lead assessor)
Kensington	1250
Middle Cove	390
Milperra	200
Mosman	1,142
Rosebery	883
Rozelle	12,000 (half a ton of dust)
Russell Lea	1,353
Surry Hills	1,117
Sydenham: Sydney Aircraft Noise Insulation Project (SANIP)	2,000 (average) in homes tested by environmental consultant
Other Relevant Dust Levels (mg/kg)	
Dulwich Hill	55 cadmium, 57,000 zinc in ceiling dust
Manly	2,500 lead in demolition dust on leaves in neighbour's garden

Published Results for Heavy Metals in Sydney Ceiling Dusts

Reference:	No. of buildngs	Area of Sydney	Age of buildings	Lead concentration range in mg/kg
Bawden-Smith (1992)	49	Balmain	1986 to 1842	Range 500 – 5300, mean 2,300
Whicker et al (1997)	11	Campbelltown	1995 to 1917	Range 165 – 2490, mean 822
Woodward-Clyde (1999)	4	Concord	Not stated	Range 893 - 6,890

References to the table of ceiling dust results:

Bawden-Smith, Jason (1992) *Environmental Lead Contamination - The Mort Bay [section of Balmain] Pilot Study*, Masters Thesis, Applied Science in Environmental Studies, University of NSW, Sydney, Australia. Whicker, C.L.; Hayes, W., Khoo, C.S. and Bhathal, R.S. (1997) *Heavy Metals in Ceiling Dust of Some Sydney Houses, New South Wales, Australia*, in "Journal and Proceedings of the Royal Society of NSW", Sydney, Australia, Vol.130 Parts 3-4, 65-78. Woodward-Clyde (1999) *Remediation Action Plan, Dulux Cabarita, Sydney, Australia*] Notes: The Woodward-Clyde report noted that homes assessed in the area had a ceiling dust lead loading of around 35 mg/m². The Whicker study also published ceiling dust levels of copper (range 57 - 517 mg/kg, mean 150 mg/kg) and zinc (range 97 - 3664 mg/kg, mean 1027 mg/kg).

9. Q: Is ceiling void dust a health risk and who could determine this?

A: Looking at the above list of what can be in ceiling dust and at the table showing what has been measured to be in ceiling dusts in Sydney, the precautionary principle would indicate that we must assume ceiling void dust is a health risk until proven otherwise, especially considering the following points:-

In particular, lead assessors and the Senior Environmental Health Officer at South Eastern Sydney Public Health Unit concur that **ceiling dust, if disturbed or falling into living spaces, is a health risk, due to the lead alone**. The risk is that current or future resident young children will pick up the lead dust off the floor and other surfaces and their hand-to-mouth activity will provide the pathway for lead poisoning. For adults, the more usual pathway for lead poisoning is inhalation, so it is safe to assume that there is a lead health risk for any adult breathing in large amounts of ceiling dust, such as roofers or ceiling repairers who do not use respiratory protection. The lead health risk to these workers would easily be determined by blood lead testing, which could be carried out by individual workers, organised by employers, done through GP's or at the Workers Health Centre, or carried out as a research project by WorkCover Authority NSW (though this is unlikely with the WorkCover redundancy program in full swing).

It would seem that the most pressing research need to answer the health risk question in relation to other health risks from ceiling dust in Sydney is to look at the particulates issue (especially fine particulates (PM10) and ultra-fine particulates (PM2.5)). Ceiling dust is variously described as "like talcum powder" or "like flour" or, "you'd be amazed at the haze inside ceiling voids on a windy day!" The Whicker study referred to above, found that around 20% of the mass of ceiling dusts around Campbelltown was in the particle range of less than 53 microns [which is approximately the width of a human hair]. The lead concentration in this particle range was higher than for larger particles. According to a new brochure from The Australian Lung Foundation, called *Wood Smoke, Air Pollution and Your Health*:

"When you breathe in high levels of air-borne particles from burning wood, motor vehicle exhausts or industrial emissions, your health can be seriously affected. People who already suffer from conditions such as asthma, chronic bronchitis, emphysema or heart disease are especially at risk. So are the very young and very old. Each year in Australia, lung disease and ill-health resulting from air pollution, lead to 9 million lost days of work or social activity, and cause about 1000 preventable deaths."

Increased cancer risks due to cadmium and arsenic as have been found around the Boolaroo lead smelter, should also be investigated.

The possibility of asbestos fibres from in situ or since-removed asbestos cement roofs would seem to be a special health risk from some ceiling dusts. Asbestos is not a cumulative poison and even a single exposure should be avoided if at all possible.

As for which government agency is most appropriate for answering the question of whether ceiling dust is a health risk, this would be either the federal or state health or occupational health and safety agencies. See the "[Ceiling Dust Removalist Case Study](#)" for the clear answer from WorkCover NSW that exposure to ceiling dust (either by breathing it in, ingesting it or absorbing it through the skin) should be avoided. Anyone who observes a worker who has failed to protect himself from ceiling dust exposure is entitled to report the incident to WorkCover NSW (phone 131 050). Public Health Regulations may have something to say about ceiling dust. The National Occupational Health and Safety Commission (NOHSC - previously Worksafe) can write a standard or code of practice for, say, handling ceiling dust, but NOHSC cannot ensure that the code is followed. It would be up to the state agency to take it up.

10. Q: Is ceiling void dust an environmental problem and who controls this?

A: When ceiling dust is permitted to escape from the void and enter the living space, or the outside of the building, there will then be opportunities for it to contaminate air, soil, street-dusts, sewage and stormwater. Councils have a mandate to control pollution of air, soil and stormwater, but council staff need evidence that it's happening (eg be called out and attend the site at the time) and evidence that the dust etc being dropped in gutters etc is contaminated. It is a violation of the Clean Waters Act to pollute waters at all, or to put something in a position where it might pollute stormwater. The NSW Environment Protection Authority (EPA) controls licences for waste facilities and the EPA has licensed the Australian Refined Alloys (ARA) secondary lead smelter in Alexandria (phone 9516 5099) to accept ceiling dust waste, as the lead in the dust can be recycled. Building debris needs to be separated out from the dust as it harms the ARA equipment.

11. Q: When should ceiling void dust remain undisturbed?

A: The factsheet [Lead Safe: Lead in Ceiling Dust](#) advises "The dust in your roof void does not pose a risk if ceilings, cornices and ceiling roses are in good repair. In fact, the dust is better left untouched if there is no leakage into living spaces."

12. Q: When should ceiling void dust be removed?

A: The same factsheet, [Lead Safe: Lead in Ceiling Dust](#) advises "Some home maintenance or renovation activities may disturb dust and increase the risk of contaminating your living areas. These include:

- Demolishing ceilings or cavity walls...
- Installing insulation or new electrical wiring
- Working in the ceiling cavity for any reason...

"Water damage may cause ceilings to crack or collapse... "Assume dust in pre-1970 houses contains lead unless tests prove otherwise... **"Have lead dust removed from your house...** "Do-it-yourself ceiling dust removal is not recommended - it's dirty and dangerous and requires special equipment. Hire a professional."

13. Q: Is there any government requirement that ceiling dust must be removed?

A: No, there is only the above advice from the NSW Environment Protection Authority and in the following circumstances:-

For houses in the Sydney Noise Insulation Project (SANIP) area, the project management (federal government agency) took advice from the environmental consultancy DASCHEM (Melbourne) that required that ceiling dust was removed in **every** house prior to house demolition and prior to installation of insulation. "All other building work resulting in penetrations to ceilings and/or walls is to be carried out after the dust removal had been completed", according to the *Procedures Used in the Sydney Aircraft Noise Insulation Project* (these specifications are only for the purpose of SANIP though the ceiling dust contractors who worked on SANIP tend to still use them).

"With the introduction of the Integrated Development Assessment Legislation in 1998, all NSW councils were obliged to review their standard conditions for DA's [Development Applications]", so in the case of work to be carried out which requires a DA, for instance, in the Southern Sydney Regional Organisation of Councils (SSROC) area, member councils are "strongly encouraged to adopt the conditions [Reference: *SSROC - Standard Environmental Conditions for Development Applications*] in as near to the current form as possible to encourage cross-regional consistency." The "Instructions for Use" section of the reference quoted above and below warns: "Under no circumstances should any of these conditions be placed on a DA without consideration as to whether they apply to the development proposed." Relevant SSROC standard conditions for residential properties (and all other properties) undergoing demolition/remediation include:

"13 Demolition and disposal of materials incorporating lead paint

Prior to demolition of buildings constructed before 1970, the applicant shall submit a Work plan prepared in accordance with Australian Standard *AS2601 - 1991, Demolition of structure* by a person with suitable expertise and experience. The Work Plan should outline the identification of any hazardous materials, including surfaces coated with lead paint, method of demolition, the precautions to be employed to minimise any dust nuisance and the disposal methods for hazardous materials....

"Hazardous dust must not be allowed to escape from the site. The use of fine mesh dust proof screens or other measures is recommended. Any existing accumulations of dust (eg; ceiling voids and wall cavities) must be removed by the use of an industrial vacuum fitted with a high efficiency particulate air (HEPA) filter. All dusty surfaces and dust created from work is to be suppressed by a

fine water spray. Water must not be allowed to enter the street and stormwater systems. Demolition is not to be performed during high winds, which may cause dust to spread beyond the site boundaries.

"All contractors and employees directly involved in the removal of hazardous dusts and substances shall wear protective equipment conforming to Australian Standard *AS1716 Respiratory Protective Devices* and shall adopt work practices in accordance with the requirements of WorkSafe's *Control of Inorganic Lead at Work* (NOHSC: 102(1994) and NOHSC: 2015(1994))".

All lead-contaminated materials are to be disposed of in accordance with the EPA's requirements.

"14 Lead contaminated material post-removal requirements Following demolition activities, soil must be tested by a person with suitable expertise, to ensure the soil lead levels are below acceptable health criteria for residential areas. Full certification is to be provided to Council prior to final inspection."

14. Q: What are the occupational health and safety protocols for ceiling dust extraction?

A: These vary from government agency to government agency:-

- As mentioned above, if ceiling dust is to be removed as a result of a DA involving demolition in which a council officer determines that a condition such as SSROC's Standard Condition 13 is required, then respiratory devices would be worn and work practices from WorkSafe's *Control of Inorganic Lead at Work* would be adopted.
- According to the *Procedures Used in the Sydney Aircraft Noise Insulation Project* [SANIP] (which specifications are only for the purpose of SANIP), in addition to the respiratory device being worn (after the worker is trained in its use), the following specifications are used during ceiling dust removal:-
- All employees directly involved in the removal shall wear disposable overalls fitted with hoods and must at all times keep their suits fully on and in good condition;
- Personal monitoring of all employees directly involved with the removal conforming to AS3640 Workplace Atmospheres – method for sampling and Gravimetric Determination of Inspirable Dust;
- The entire ceiling space and bagged wastes are to be sprayed with a PVA solution applied by an airless spray prior to removal from the ceiling space:
- Personal decontamination procedures are to be followed and will involve spraying down of disposable suits with the PVA solution in the ceiling space, and washing hands and face with clean water outside the building with all waste water directed to sewer;
- All employees involved in dust removal shall adopt good hygiene practices and ensure hands and faces are thoroughly washed before leaving the site and prior to smoking or eating;
- All employees entering the ceiling space within 1 hour of dust removal shall wear approved respiratory protection conforming to AS1716;

15. Q: What special equipment is needed to safely remove ceiling dust?

A: The advice from the NSW EPA, SSROC, SANIP, Illawarra Public Health Unit, North Lake Macquarie Environmental Health Centre and Broken Hill Environmental Lead Centre is consistent in recommending the use of industrial HEPA vacuum equipment.

16. Q: What are the potential health risks to people carrying out ceiling dust removal?

A: The NSW EPA's factsheet, [Lead Safe: Lead in Ceiling Dust](#) warns "Watch out for electrical wires and take care not to fall through the ceiling. See the answer to Q 9 above and the [Ceiling Dust Removalist Case Study](#) for the advice of WorkCover NSW.

17. Q: What are the potential health risks to people working in ceiling voids or cutting into ceilings if the dust is not first removed?

A: Much the same as the health risks to the ceiling dust removalist.

18. Q: What are the potential health risks to residents when ceiling dust is removed?

A: Adults would presumably only have a one-off exposure to dust in the air on the day if they were present during dust removal or soon after and before the dust had settled. People living with constant exposure to ceiling dust due to holes in the ceiling, may have a more significant exposure. Young children on the other hand, are at risk of ingesting the dust that settles after removal, due to their hand to mouth activity and close contact with the floor.

19. Q: What are the government requirements regarding disposal of ceiling dust?

A: The NSW EPA Pollution Line officer I spoke to on 29.4.99 said "There's no problem legally with putting leaded building and demolition waste in the municipal waste bin – so a contractor could not be fined for putting ceiling dust in the householder's rubbish bin – it is solid waste class 1 – which is what most of the landfills that accept domestic garbage are categorized as. If the householder doesn't want the dust or debris in their bin then it should be included in the quote for the job that the contractor takes it to a landfill – it is charged by weight." One ceiling dust removalist, John Mercer of Australian Lead Services, said he was shocked to hear that the waste dust could be put in the garbage. He said a better policy is needed.

20. Q: Can the lead in ceiling dust be recycled?

A: Yes, the ARA secondary smelter in Alexandria is licensed to accept ceiling dust in order to recycle the lead out of it.
Sydney ceiling dusts have a mineable level of lead in them.

21. Q: When and why did the ceiling dust extraction industry begin?

A: As far as I know, the first ceiling dust removal project took place in Port Pirie, South Australia in the early 1990's due to the high levels of heavy metal in the dust resulting from the lead smelter. In Sydney, the first ceiling dust removalist probably set up his business in 1995, having designed and built his own truck mounted vacuum equipment. The industry began purely in response to the demand from householders who were made aware of lead in houses through media reports. Various extraction companies have come into the field from a range of related industries such as installation of thermal insulation, air-conditioner ducting, or noise insulation, cleaning and attic-conversions.

22. Q: How big is the ceiling dust extraction industry in Sydney?

A: There are now more than twenty companies who do ceiling dust removal in Sydney.

23. Q: How many houses have had their ceiling dust extracted?

A: A conservative estimate would be 5000, over half of which were paid for by the Federal Government in the SANIP.

24. Q: What are the government requirements regarding licensing of ceiling dust contractors?

A: None.

25. Q: What do you need to do to set yourself up as a ceiling dust removalist?

A: At this point in time (June 1999) - nothing but have a telephone number, an able bodied worker and an industrial vacuum cleaner. If you deal with cluey clients, they will want you to convince them that you are looking after your own health, the health of residents and the environment, have a truck-mounted HEPA vacuum cleaner, and do follow-up clearance testing of the floors inside the house. John Mercer of Australian Lead Services said "non-HEPAs should be completely outlawed" He's heard from lead assessors and others in the field that only companies who use HEPA filters will get referral work.

26. Q: How would licensing of ceiling dust removalists help the home-owner?

A: Householders are faced with the problem of determining whether a ceiling dust removalist is going to do a decent job and not leave a whole lot of dust in the ceiling void or leave their home more contaminated than it was (in the living area). Licenses would ensure that at least the contractor could have their license taken away if they consistently did a bad job. With the usual requirement that licensed contractors be insured, the householder would have some way of claiming the cost of clean-up and testing, if the job was botched.

27. Q: Could ceiling dust removalists be licensed by the EPA, WorkCover, or Department of Fair Trading (DoFT)?

A: I asked DoFT's Home Building Unit Manager this question and was advised by Michael Carroll, for the Director General, that ceiling dust removal work "does not require to be licensed under the Home Building Act 1989", administered by DoFT. DoFT "would not propose recommending any changes to the Legislation in that regard", for example to necessitate licensing of ceiling dust contractors. Failing the setting up of licensing of ceiling dust removalists, DoFT may still have a role to play in "professionalising" the industry, for instance, ensuring contractors have insurance and work to certain standards. WorkCover could license them, along with lead paint removalists, lead soil removalists and lead contaminated carpet cleaners, but no steps have yet been taken to do so. Regulations would need to be developed, as they were to allow licensing of asbestos contractors. Gary Rhyder from WorkCover NSW has commented "... with the move away from prescriptive legislation to performance based legislation employers must adopt a risk management approach to safety. This approach requires employers to develop specific procedures to address risks, and I am advised that this approach would continue to be preferred by WorkCover." One ceiling dust contractor who used to be an inspector for the equivalent body to WorkCover in New Zealand, said that the approach in New Zealand is not so much "leave it up to the contractor and step in when they do something wrong", but more, 'let's train the contractor and tell them how to do it

right in the first place'." The EPA is very disinclined to license contractors but the Lead Reference Centre (the lead policy and lead education section of the NSW EPA) is keen to work with DoFT and TAFE (Technical and Further Education) to develop training and other requirements for ceiling dust contractors.

28. Q: What do government departments do when they need to employ ceiling dust contractors?

A: In the absence of a licensing system, but with the need to set minimum standards for ceiling dust removal work, various government departments have responded by putting out tenders and then creating a list of approved contractors for example:

The Sydney Aircraft Noise Insulation Project (SANIP), a federal government project, has resulted in one ceiling dust removal company being on a list of approved contractors for SANIP work and 5 other ceiling dust removal companies being sub-contracted by approved contractors on the SANIP list.

The Broken Hill Environmental Lead Centre project (part of the NSW Health Department) has approved of 3 companies to carry out lead removal work in the lead mining town of Broken Hill but most of the ceiling dust work is sub-contracted by the three companies, to Nobac Cleaning Pty Ltd.

The Hunter Region office of the NSW Department of Public Works and Services (Hunter DPWS) has accredited 6 companies to carry out ceiling dust removal work around the lead zinc smelter in Boolaroo, in a remediation program being managed by the North Lake Macquarie Environmental Health Centre (part of the NSW Health Department). Hunter DPWS specifies in the contracts, the procedures to be used for the ceiling dedusting.

Other government departments are still overcoming the problem, for example:

- The NSW Roads and Traffic Authority (RTA) manages the issue of dust escaping from for instance houses being demolished to build motorways, by following the NSW Government's Environmental Management Systems Guidelines. The environmental management plan would then be site-specific and the RTA undertakes to use best environmental practice.
- The federal Department of Community Services (DoCS) has asked directors of childcare centres to undertake a lead audit to determine the need for lead remediation activities such as ceiling dust removal, but it is left up to the childcare centre management to determine an appropriate contractor.
- ☐ The Illawarra Public Health Unit (part of the NSW Health Department) investigated having HEPA vacs available for people to borrow to carry out their own ceiling dust removal work around the copper smelter in Port Kembla. The factsheet [Lead Safe: Lead in Ceiling Dust](#) by NSW EPA, advises "Do-it-yourself ceiling dust removal is not recommended - it's dirty and dangerous and requires special equipment. Hire a professional." The Illawarra Public Health Unit (PHU) later decided to allow residents to borrow the industrial HEPA vacs for dust removal only inside the house and they "recommend" hiring a professional for removal of ceiling dust.
- The NSW Department of Housing carried out a lead project in Glebe housing estate including ceiling dust removal, and will be carrying out such work following the hail damage in south eastern Sydney, but no contractors have yet been approved in this process.
- Another NSW government department in charge of renovating Sydney train stations has done what the public does: - ring up the Lead Advisory Service for referral to contractors on the list developed by the service.

29. Q: Is Standards Australia currently writing or planning to write a standard on ceiling dust removal, including WHEN to remove dust and how to test it?

A: Standards Australia is not currently writing a standard and there is no committee set up to do so. A letter was sent on 7th June 1999 to ask if a standard was planned but to date a reply has not been received.

30. Q: Is there an industry association for ceiling dust removalists and what does it say about standards and licensing?

A: [This answer was revised in July 2005] Yes, The LEAD Group mentored the development of the Australian Dust Removalists Association (ADRA) which began in 1999 and was incorporated as an association on 17 November 2000. See www.adra.com.au for their Code of Practice and Contact Details of Member Companies to find an ADRA member near you. If there is no ADRA member near you, try to find a contractor who will remove ceiling dust by looking in the phone book or local newspaper ads and let them know about ADRA so that ADRA can determine if they comply with the Association's criteria for membership and invite them to join if compliant. Potential new members of ADRA should [Email the Association](#) or Phone ADRA: (02) 9716 0966 Or Contact [Global Lead Advice & Support Service](#) Free call 1800 626 086 [Email](#)