

PUBLIC ACCOUNTS COMMITTEE

INQUIRY INTO THE MANAGEMENT AND OVERSIGHT OF THE PERTH CHILDREN'S HOSPITAL PROJECT



**TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
WEDNESDAY, 6 SEPTEMBER 2017**

SESSION TWO

Members

**Dr A.D. Buti (Chair)
Mr D.C. Nalder (Deputy Chair)
Mr V.A. Catania
Mr S.A. Millman
Mr B. Urban**

Hearing commenced at 10.19 am

Mr PETER BRUCE McCAFFERTY

Chief Executive Officer, ChemCentre, examined:

The CHAIR: Thank you very much, Mr McCafferty, for waiting patiently, because we did go over time. On behalf of the Public Accounts Committee, I would like to thank you for appearing today to provide evidence relating to the committee's inquiry into the management and oversight of the Perth Children's Hospital project. My name is Tony Buti; I am the chair of the committee and the member for Armadale. To my left is Dean Nalder, the committee's deputy chair and member for Bateman. To his left is Vince Catania, the member for North West Central. To my right is Simon Millman, the member for Mount Lawley; and to his right is Barry Urban, the member for Darling Range. It is important that you understand that any deliberate misleading of this committee may be regarded as a contempt of Parliament. Your evidence is protected by parliamentary privilege; however, this privilege does not apply to anything that you might say outside today's proceedings. Do you have any questions about your attendance here today?

Mr McCAFFERTY: No.

The CHAIR: Would you like to start with a brief opening statement before we proceed with questions?

Mr McCAFFERTY: Sure. ChemCentre's involvement in the Perth Children's Hospital started around this time last year, in early September. When we became involved it was clear that evidence of lead contamination had already been identified and our initial involvement was to try and assist with determining where that might have come from and also to provide some checking of results coming from other parties. ChemCentre has continued to be involved with the project. We have had almost 21 000 samples through looking at lead levels and trying to come up with some mitigation strategies in that. The majority of our work has been involving actual analysis of lead but also providing specific chemical scientific advice to the intergovernmental agency panel that has been more recently put together.

The CHAIR: You have been primarily engaged by Strategic Projects I believe.

Mr McCAFFERTY: That is correct.

The CHAIR: Have you also had direct communication with the Perth Children's Hospital task force?

Mr McCAFFERTY: In more recent times, yes. That has really been as part of that interagency discussion with the task force plus Health, plus others in that particular area.

The CHAIR: Have you been engaged by the task force to perform analytical work?

Mr McCAFFERTY: Yes.

The CHAIR: Are you required or have you been required to report directly to the task force?

Mr McCAFFERTY: That is correct, yes.

The CHAIR: What has been the rationale for that?

Mr McCAFFERTY: As I mentioned initially, it was to check that the analysis being done by other parties was accurate and correct. Since that time it has been to provide independent chemical analysis to try and come up with the source of any contamination.

The CHAIR: Just one further question before I hand over to my colleagues: how many investigations relating to the lead contamination issue has the ChemCentre been contracted to undertake?

Mr McCAFFERTY: Specifically associated with Perth Children's Hospital?

The CHAIR: Yes.

Mr McCAFFERTY: As I mentioned, we have had almost 21 000 samples, which has really been dominated by water analysis, but we have also analysed brass and other materials associated with Perth Children's Hospital.

Mr D.C. NALDER: Twenty-one thousand—was that for the Perth Children's Hospital?

Mr McCAFFERTY: That is correct; yes.

The CHAIR: And the contracting identity has always been—have you done it on behalf of the task force and Strategic Projects?

Mr McCAFFERTY: That is correct.

The CHAIR: They have been the contracting identities on both occasions?

Mr McCAFFERTY: Yes. There has also been some peripheral analysis that we have undertaken for other parties associated with that as well.

The CHAIR: One final question: is it correct that the ChemCentre provided a draft interim report to Strategic Projects on 18 September 2016 that recommended the removal of the dead leg on the QEII ring main?

Mr McCAFFERTY: No; I do not believe so. We had a look at some material after the ring main was disconnected and had some samples provided to us from the task force that were from that ring main, but I do not believe it was our recommendation to remove it, and I do not think we had —

Mr D.C. NALDER: Not the ring main—the dead leg.

Mr McCAFFERTY: Sorry, the dead leg.

The CHAIR: But you did prepare a draft interim report; is that correct?

Mr McCAFFERTY: Yes.

The CHAIR: With regard to that, did you directly brief the task force or any of its members about the findings of that interim report?

Mr McCAFFERTY: We would have, yes.

The CHAIR: And what about Strategic Projects?

Mr McCAFFERTY: Yes, I think so.

The CHAIR: And anyone else?

Mr McCAFFERTY: There would have been potentially members from the building or plumbing group at some of those meetings.

The CHAIR: Would you be able to take it on notice to provide us with a list of all parties and the dates that you briefed them in respect of your interim report?

Mr McCAFFERTY: Sure.

Mr D.C. NALDER: For the benefit of all of us here today, could you state your professional opinion on the cause of lead as of today—what you see as the issue?

Mr McCAFFERTY: For a long period of time we have maintained that the most likely source of lead in the hospital is brass. We know that lead is deliberately added to brass, so the fittings can quite

legally comply with the Australian Standard and still have four and a half per cent lead in them. We have seen evidence of dezincification of some of those fittings which we believe has contributed to lead in the water.

Mr D.C. NALDER: Would you therefore believe that there is an issue regarding Australian Standards such that we allow brass fittings to have certain degrees or certain percentages of lead within them?

Mr McCAFFERTY: I should perhaps provide a little more background. The ChemCentre did some work back in the mid to late 90s that actually had that standard reduced. It used to be six per cent that was allowed. On the back of some work ChemCentre did around Perth, that was reduced to four and a half per cent, but I think on the basis of what we have seen at the Perth Children's Hospital and potentially elsewhere, four and a half per cent is still too much.

Mr V.A. CATANIA: Have you provided that advice, or will you provide that advice?

Mr McCAFFERTY: Verbally we have voiced that at several meetings, yes.

Mr V.A. CATANIA: When did you voice that?

Mr McCAFFERTY: That would have been at those task force meetings?

Mr V.A. CATANIA: This year?

Mr McCAFFERTY: Yes.

Mr D.C. NALDER: If we have had a situation, and whether it has been caused by stagnation, chlorification or other processes, does this raise a concern for you that there may be instances in other buildings within Western Australia where we have a similar issue of leaching of lead into our water supply?

Mr McCAFFERTY: That is a good question. It is not one that I am totally confident to answer, but I think part of that is because we just do not know. We have seen some work done at Fiona Stanley and also the Sir Charles Gairdner sites which suggests that lead is not a problem. But for new buildings with new fittings that have undergone the same sort of treatment, it is quite a likely possibility.

Mr V.A. CATANIA: Have you had any undertakings by the government to go and test those other buildings around the state that could have this potential problem?

Mr McCAFFERTY: No.

Mr B. URBAN: The non-destructive testing for the brass fittings, how many brass fittings have you looked at the test results for, off the top of your head?

Mr McCAFFERTY: The non-destructive testing was not actually undertaken directly by ChemCentre, but we have seen some results of certainly less than 100.

Mr B. URBAN: And were they all around about the 4.5 per cent?

Mr McCAFFERTY: They were less than 4.5.

Mr S.A. MILLMAN: Sorry, they were all less than the Australian Standard?

Mr McCAFFERTY: Yes.

Mr D.C. NALDER: There seems to be a focus around the TMV; not necessarily the TMV valve itself but other brass fittings that may fit within that. Are you able to elaborate any further around where you pinpoint the issue is likely to be?

Mr McCAFFERTY: We are actually only getting samples supplied by other parties, so we have not had a great deal of say on where those samples have come from. But having said that, the samples

that led to the conclusion that the TMV area, shall we say, is quite logically a cause for concern, because they are consistently coming up with elevated levels of lead in the water. I believe it is erroneous to focus solely on the TMV itself. As you have probably stated, that is actually an area-based concern, not the TMV component.

[10.30 am]

Mr D.C. NALDER: My understanding is that if we look at the box that surrounds the TMV, there are a number of different brass fittings. My understanding is that there are 1 200 of these customised boxes that sit within there. Is there a number of other brass fittings that sit outside that? My understanding is that there is something like 10 000 brass fittings altogether.

Mr McCafferty: There are brass fittings throughout the building.

Mr D.C. NALDER: Would it therefore be, in your view, a little bit premature to assume by replacing the box, even though there are a lot of fittings within the box, that we actually solve the issue; that it is likely to be through all the brass fittings?

Mr McCafferty: We have recently had some discussions about that type of issue. There has been, I think, a little bit of a tendency to run to a single source of lead contamination. What we have maintained, and the analysis actually supports it, is that there may not necessarily be a single component that is the cause of the lead contamination. The work that has been the focus of the health department sampling does tend to point towards the TMV area as being a major area of concern. I believe on top of that they are actually looking at a risk-based approach of what those end uses may be of the water, because some of the work that was being done earlier was looking at all water sources. Clearly, some of those tested were not for potable use, so the contamination issue of the levels of lead that we have seen in non-potable water is not really a health concern.

Mr D.C. NALDER: Is it possible then that part of the solution is just time and flushing?

Mr McCafferty: Yes.

Mr D.C. NALDER: So we might go and replace brass fittings, but the benefit may be that it takes us 12 months and the continual flushing will eventually just get those levels down to below our health standards?

Mr McCafferty: Once you take the lead out via the water, there is not likely to be any more lead there.

Mr D.C. NALDER: There is still leaching to a degree but there will be only a finite period where it will leach. I imagine it will stop leaching at some point.

Mr McCafferty: Yes, and we have been asked that question based on the analysis of water in some of the fittings, but it is impossible to determine how long a period of time that may be.

Mr D.C. NALDER: Do you make a recommendation to the task force as to a course of action you believe is an appropriate course of action?

Mr McCafferty: We made a recommendation earlier regarding the use of phosphate to assist with the remediation of that problem, and I believe that has been successful to a degree.

Mr D.C. NALDER: Can I just ask on phosphates—being a farm boy—and the corrosion element of phosphate: is there a risk of greater corrosion throughout the plumbing with the phosphate flushing?

Mr McCafferty: No, quite the inverse. The phosphate provides a passivated surface on metal—the phosphate that is used in this application. It has been widely used throughout Europe and the US to prevent corrosion of metallic components.

Mr V.A. CATANIA: When did you provide the advice to government to use the phosphate flushing?

Mr McCAFFERTY: It would have been around June, I believe.

Mr V.A. CATANIA: This year?

Mr McCAFFERTY: This year, yes.

The CHAIR: The Building Commission audit report and the Jacobs report recommends that UWA and ChemCentre should engage in further investigation of potential sources. Are you able to provide us in open session with where that investigation is and any of the findings?

Mr McCAFFERTY: Yes. We actually subjected duplicate samples to isotopic analysis. So very, very briefly: lead is made up of different non-radioactive isotopes which have provided almost a fingerprint as to where the source may come from, but that relies on the source being different to the contamination. The work we did at ChemCentre came up with a range of lead fingerprints which really did not give us any way forward on using that as a technique to determine what the likely source was. UWA have recently done some work on those same samples and have some high-resolution equipment which has provided a little more clarity on the signal but is still inconclusive about the source, so the technique of lead fingerprinting has not been particularly valuable in this case.

Mr S.A. MILLMAN: You mentioned before that ChemCentre is not responsible for obtaining the samples. You do not have any reservations about the scientific integrity of the samples that you have been provided?

Mr McCAFFERTY: No, and I should qualify that: we have actually collected some samples ourselves, but it has always been from sites that have been determined by other people.

Mr B. URBAN: I want to go back to your comments about the 4.5 per cent coming back down from 6.5 per cent lead in brass fittings, particularly with potable water. Since 2014 it has been illegal to use anything greater than 0.25, in the US particularly. They have actually gone to a total plastic or copper fitting with solder, which is lead-free. I just want to get your comments on this. It is more for the long term —

Mr McCAFFERTY: The Australian Standards?

Mr B. URBAN: Yes, to get our recommendations. In particular with potable water, I want to get your comments on what the reduction of that is. Obviously, you are the chemist and I am an ex-policeman, so you probably know more than I will.

Mr D.C. NALDER: Not probably!

Mr B. URBAN: Yes, good point. I would hope so anyway!

Mr D.C. NALDER: Sorry, I did mean that tongue in cheek.

Mr McCAFFERTY: I should qualify that the lead is actually added to the brass to make it softer or more malleable, which makes it easier to put a thread on and machine and that sort of thing. But my personal opinion is that adding lead to a material that is for use in contact with potable water is —

Mr D.C. NALDER: Fraught with danger.

Mr McCAFFERTY: That is a good way to express it—fraught with danger. And I do not see any real need to continue that. I would be a little cautious about suggesting an alternative. I think brass still has a role, but leaded brass is, I think, fraught with danger. But to suggest plastic and solders and copper is something that has really got to be carefully considered.

Mr V.A. CATANIA: I think I may have asked you this question: have you put that forward or will you put that forward to government?

Mr McCAFFERTY: We have not as yet. We have discussed it, but we have not actually formally made that —

Mr V.A. CATANIA: When did you discuss that?

Mr McCAFFERTY: Several months ago.

Mr D.C. NALDER: Would it be prudent for the state to consider auditing alternate sites of high risk— that is, other hospitals, schools, potentially where our kids are, things like that?

Mr McCAFFERTY: I believe so, and I think schools, as you have mentioned, are one of potential risk. One, you have a population of children. But in this particular case we believe part of the problem has been a period of stagnation, or low flow, and schools would have that just about every year with the summer vacation.

Mr V.A. CATANIA: Just with that, will you make recommendations to government that schools are a classic example where you have that stagnant water over the school holidays? Have you in the past, or will you make those recommendations that all schools get checked?

Mr McCAFFERTY: We have not, but we certainly will.

Mr D.C. NALDER: Are there any other processes or any other issues that you believe are prudent for us to be considering in looking at and inquiring into the Perth Children's Hospital, whether it is relevant to the hospital itself or whether it is in the state's interest? Do you have any views or recommendations you would make to us?

Mr McCAFFERTY: The only thing that I probably should have mentioned was in that non-destructive testing space we have had some reservations about the validity of that being used as an in situ technique, because the way the corrosion has occurred is the brass fitting is actually compliant with the Australian Standard but the internal surface, due to dezincification, is enhanced with lead, so the non-passive testing of the outside of the fitting is not really going to give you a clear indication of what is occurring on the inside. The non-destructive testing is quick, cheap, easy, but it is not necessarily going to provide you with a meaningful result of potential risk of consumption of water.

The CHAIR: The Building Commission's final report and also the Chief Health Officer's review basically have criticised or inferred that the water testing strategy has not been optimal, undertaken by Strategic Projects that is. Do you have a view on the testing regime undertaken by Strategic Projects?

Mr McCAFFERTY: I certainly cannot make any comment prior to ChemCentre's involvement, and that may be the period that is perhaps of most interest to this group. Certainly since our involvement, we have made some recommendations which they have taken on board in terms of the validity of sampling. Also the validity of some of the sample collection points, which I believe has provided much more rigorous data.

The CHAIR: So you think that since September 2016, when you became involved, you are quite happy with the regime —

Mr McCAFFERTY: And the process.

The CHAIR: — and the process?

Mr McCAFFERTY: Yes. The only additional comment I would make there was prior to the state having practical completion, it was exceedingly difficult to get modifications which we believe were going to provide a more meaningful sample. For instance, some of the sample collection points had

brass fittings on themselves, which we expressed a concern about. We made that quite clear and it really only got done after practical completion.

[10.40 am]

Mr D.C. NALDER: In your professional viewpoint, do you believe practical completion was an important part of the process of improving?

Mr McCafferty: From our perspective, yes.

Mr D.C. NALDER: Because of access to the —

Mr McCafferty: And also getting those modifications around sample points completed.

The CHAIR: You mentioned that since you have become involved you think that the testing regime has been adequate. What are the elements that make up an adequate testing regime?

Mr McCafferty: That is a good question. You need to make sure that the sample that is being collected is representative of a sample that is from the facility. That means taking a number of samples which provides you with a representative sample suite across the building. So taking one or two samples in a building of that size, for example, would not be adequate. The health department has also been very proactive in taking a more randomised suite of samples, whereas I think previously there was a tendency to take samples that were easy to collect, not necessarily ones that were representative of potential exposure.

Mr S.A. MILLMAN: Who would have taken samples before the Department of Health started taking the randomised samples? Who was responsible for collecting the samples?

Mr McCafferty: That was done by a contractor of John Holland.

The CHAIR: There is a question that I would like to read out to you: the Chief Health Officer's review also described the presence of groupthink among PCH stakeholders, where the lead issue was regarded as an artefact of the testing program and/or analytical methodology and the chlorination process was not examined strenuously or as a matter of urgency. Do you agree with those findings based on your observations?

Mr McCafferty: I do not really subscribe to the groupthink. I did not see any expression of that.

The CHAIR: I do not think we will, but there may be some additional questions that we may send through to you. I need to read you a closing statement, which you would have heard when you sat in on the previous hearing. Thank you for your evidence before the committee. A transcript of this hearing will be forwarded to you for correction of minor errors. Please make these corrections and return the transcript within 10 working days of receipt. If the transcript is not returned within this period, it will be deemed to be correct. New material cannot be introduced via these corrections and the sense of your evidence cannot be altered. Should you wish to provide additional information or elaborate on particular points, please include a supplementary submission for the committee's consideration when you return your corrected transcript of evidence. Thank you again.

Hearing concluded at 10.43 am
