T R A N S C R I P T

STANDING COMMITTEE ON THE ENVIRONMENT AND PLANNING

Inquiry into unconventional gas in Victoria

Melbourne — 15 September 2015

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Dr Cathy Wilkinson (affirmed), Executive Director, Knowledge, Standards and Assessments, Environment Protection Authority Victoria.

The CHAIR — I ask you to present a brief presentation on behalf of the EPA, then we will follow with some questions.

Dr WILKINSON — Thank you very much for the opportunity. I am Cathy Wilkinson. I am the executive director of knowledge, standards and assessments with the EPA, and the purpose of today's brief presentation is to address the key points in our submission and, at the request of the secretariat, provide a high-level desktop overview of some of the other regulatory frameworks across Australia. Our submission today is made within the context of our role as Victoria's independent environmental regulatory authority, a joint regulator for coal seam gas in Victoria and an influential authority on environmental impacts.

The Environment Protection Act 1970 established the EPA, and the act defines EPA's powers, duties and functions. The act also provides a number of instruments which are used to minimise waste, prevent pollution and control environmental risks. The instruments used by the EPA that are most relevant to this inquiry include State Environment Protection Policies or SEPPs, notices, works approvals and licences. The EPA also publishes guidance. The act enables EPA to regulate environmental impacts through works approvals and licences. The act enables government to set statutory policies and regulations and also provides EPA with tools for compliance and enforcement. EPA's role, as outlined in our five-year plan, is to be an effective environmental regulator and an influential authority on environmental impacts. We protect the environment and human health based on scientific evidence, and we consider community aspirations in setting standards and engage with the community in making regulatory decisions. The most relevant regulations for this inquiry are those covering scheduled premises, and I will speak more about these briefly. State environmental protection policies are a key to EPA decision-making. I will provide a little bit more information in the next slide.

In terms of a general overview, state environmental protection policies are statutory documents that apply across Victoria. In the context of this inquiry, the most relevant policies are those covering air quality, water quality and the protection of groundwater. Policies identify the beneficial uses, also known as environmental values, that Victorians want to see protected and the standards required to achieve this protection. Policies require best practice environmental management and also set programs to maintain and improve the environment. We have prepared three more detailed slides on each of those different policies, but in the interests of time I will leave them. If there is interest, we can go into this again at the end of the presentation or through questions.

Our submission, both written and what we will cover now, focuses on three of the six terms of reference for the inquiry that are most relevant to our role as the EPA. They relate to environmental risks; the regulatory framework — regulatory and knowledge gaps; and our understanding of other reviews into unconventional gas. That is terms of reference 2, 5 and 6. In terms of the key points from our submission, the decision about whether to enable the development of the industry rests with the Victorian state government, and if the state government decides to permit these activities, then obviously the lessons learnt by other jurisdictions are very relevant in the context of Victoria.

If a sustainable industry is to be developed, it needs to be balanced from an environmental, economic and social values point of view and ensure that the environmental risks associated with unconventional gas are well understood and managed in the short, medium and long term. If the state government decides to consider permitting these activities, then from an EPA perspective, the way it needs to be managed is through early consultation with the community to more fully understand and address their concerns, development of further scientific knowledge at a local scale, application of best practice engineering standards, and strengthening and better integrating the regulatory framework.

In terms of EPA's current regulatory approval role, I thought I would just quickly touch on that. As detailed in the whole-of-government submission to this inquiry, Earth Resources Regulation is the responsible regulator for coal seam gas and shale and tight gas in Victoria under the mineral resources act and the Petroleum Act, respectively. As shown on this slide, in the scheduled premises and exemptions regulation, mining projects can also require EPA works approval and licensing. Exemptions apply where the project is regulated by Earth Resources Regulation; however, any unconventional gas projects that involve off-site discharges of wastewater to the environment would still require EPA works approval and licensing. Each individual project would need to be assessed to identify the approvals required, as there are also approvals required by the regulations for various other things like coal processing and industrial wastewater treatment activities. Depending on the specific project configurations, EPA approvals for ancillary operations like desalination of returned water, gas processing and power generation may also be required, depending on the nature of the project.

In terms of our regulatory compliance role, Earth Resources Regulation is responsible for environmental performance on site and preventing off-site impacts, but whether the activities are being approved under the Environment Protection Act, the mining act or the Petroleum Act, operations must still meet environmental standards set under the Environmental Protection Act, including the State Environment Protection Policies, which I mentioned briefly earlier. Approvals issued under the mining act or the Petroleum Act must still be consistent with these environmental policies, and the act allows EPA to issue notices requiring companies to monitor the environment and to control or remediate their environmental impacts. These notices can be issued before, during or after operations. For post-closure environmental management, there is not an equivalent tool under the mining and petroleum acts. At present, the main example in Victoria of environmental notices used post-closure is for landfills, which are usually licensed for 30 years or so after remediation, depending on the circumstances.

I will not go into too much detail on this next slide, but it illustrates our operating model, which is the diagram on the left, and I will quickly go through it. Basically it identifies our various roles, which are about setting standards, supporting to comply, monitoring compliance, encouraging higher performance, and informing and educate. Obviously it is an ongoing cycle. Where compliance is not achieved, then it is about enforcing the law. The diagram on the right there then shows our enforcement response, which depends on the culpability of the offender and the risk or harm to the health or the environment. These are captured in EPA's compliance and enforcement policy. Both are well established, and documents are available on the EPA website if you need more information.

Touching briefly on some of the knowledge gaps, in our submission we supported other submissions that have been made in commenting that baseline monitoring is required within unconventional gas prospect areas to understand current natural pathways for fugitive air emissions, the current level of aquifer interconnectivity in areas of gas prospect, regional groundwater and surface water quality in the context of seasonal variation, suitability of hydraulic fracturing for coal seam gas in target brown coal and black coal deposits, and suitability of existing aquifers to support water reinjection. EPA understands that some of these gaps are beginning to be addressed as part of Victorian water science studies that other parties are best placed to answer detailed questions about.

The need to have a good understanding of baseline conditions has been captured in various reports, including most recently the United States Environment Protection Authority review of unconventional gas impact on drinking water in 2015. In terms of environmental risks, as mentioned in our submission, the research paper by the Victorian Parliamentary Library in 2013 and the review by the New South Wales Chief Scientist and Engineer in 2014 provide a good overview of some of the main environmental risks and some of the areas requiring further attention, which include hydraulic fracturing and water management during exploration; matters like air quality, hydraulic fracturing, water management and reinjection or land contamination risks during production; then air quality, groundwater levels, groundwater quality and land contamination risks during post-closure.

In terms of a best practice regulatory approach, which relates to one of the terms of reference, some aspects that would be relevant from the EPA's perspective include clear roles and responsibilities, so integration across the different life cycle stages, environment and community; a risk-based, industry-wide and cumulative impacts approach; design for post-closure, so setting clear standards at the beginning; operations as a first step of site rehabilitation, so clear and transparent compliance and enforcement; and finally, independent verification and increased governance.

That concludes that summary. If it is of interest to the committee, I can briefly touch on the overview of some of the other frameworks.

The CHAIR — Sure.

Dr WILKINSON — That will probably be about 4 minutes. The inquiry secretariat invited us to outline some of the information we have been able to gather from our colleagues in other states. In summary, the unconventional gas industry is most active in Queensland and New South Wales, with exploration activity underway in Western Australia and South Australia, and a moratorium in place in Tasmania.

Currently there are two open inquiries in South Australia and Western Australia, and we have referred to their terms of reference in our submission. These mostly focus on the potential impacts of hydraulic fracturing and

the effectiveness of regulations. As I am sure you are aware, in Australia for resource-based industries such as unconventional gas there are usually two key regulators, the resource regulator and environmental regulator.

The regulatory frameworks associated with unconventional gas in Australia have undergone or are undergoing substantial reviews and reforms. We have had initial discussions with each state, so what I will go through quickly now is based on those initial discussions and a desktop review.

In New South Wales and Queensland the environmental regulators are more integrated into the approvals regulatory process, whereas in Western Australia and South Australia the primary regulatory role rests with the resources regulator with mandatory statutory referrals, administrative arrangements, memorandums of understanding and so on in place with the environmental regulator to clarify roles.

In New South Wales, the unconventional gas industry is active but mostly focused on coal seam gas, with production, pilot and exploration projects. The New South Wales framework was updated in July 2015. It is still evolving following the recommendations by the New South Wales Chief Scientist and Engineer in 2014 and the gas plan of 2014. The Department of Industry up there issues rights to explore and grants approval for exploration. The Department of Planning and Environment assesses and grants approval for production. The EPA in New South Wales issues environmental protection licences that provide conditions on any approvals, and the EPA in New South Wales undertakes compliance and enforcement on all approvals, excluding workplace health and safety.

In Queensland the industry is also active, mostly focused on coal seam gas, with production, pilot and exploration projects. Queensland also has an evolving regulatory framework with the Queensland Competition Authority doing an independent coal seam gas review in January 2014. Most of the findings were about simplifying and clarifying the roles and responsibilities of the departments. The Department of Natural Resources and Mines manages rights and exploration, has a specialised coal seam gas compliance unit and has a focus on groundwater resource uses. The Department of Environment and Heritage Protection is becoming the sole production, water and environmental regulator, managing environmental impact assessments, issuing environmental authorities and water permits. These environmental authorities require risk assessment, notification and disclosure of hydraulic fracturing prior to any activity. There are also codes of practice for bore installation, decommissioning and hydraulic fracturing; there is a joint compliance approach between departments; and annual compliance plans and results are prepared.

In South Australia hydraulic fracturing activities have been approved for unconventional gas in the Cooper Basin. In South Australia the Department of State Development is the lead government regulator setting environmental objectives that must be met by proponents through an environmental impacts assessment. The Department of Environment, Water and Natural Resources manages water resources and is also responsible for land-use policy not too dissimilar from here.

It provides advice to state development on setting environmental objectives, reviewing environmental risk assessments, risk mitigation and monitoring strategies. The South Australian EPA works with state development to provide advice through the setting of objectives and assessment of environmental impacts, and the EPA is listed as a mandatory referral authority. Above certain thresholds a licence from the EPA is required to undertake activities, and the EPA has a moratorium of understanding with the Department of State Development.

Ms SHING — A memorandum of understanding?

Dr WILKINSON — Sorry, what did I say?

Ms SHING — That is all right, a moratorium.

The CHAIR — A moratorium. We thought you meant a memorandum. We kind of knew what you meant.

Dr WILKINSON — I have moratoriums on the mind. Here is the last slide. In Western Australia hydraulic fracturing activities have been approved for shale and tight gas exploration. The Western Australian inquiry is looking at potential effects of hydraulic fracturing and the effectiveness of regulations. According to submissions to the inquiry there is no production proposal being evaluated and the industry is focusing on shale and tight gas. The Western Australian regulatory framework is in the process of being finalised.

The Department of Mines and Petroleum is responsible for regulating petroleum activities. The department assesses environment plans submitted by proponents and publishes summaries, and the department requires public disclosure and risk assessment of chemicals used down-hole — that is, fracking chemicals. The department updated its petroleum environmental regulations in 2012 and recently updated regulations for well design and operational requirements. The Department of Mines and Petroleum manages compliance for all stages. The Western Australian EPA's main role is to assess proposals that have significant environmental impacts and risks using an environmental effects statement-type process. Proposals may be referred to the EPA by proponent agencies or third parties, and a memorandum of understanding is in place between the EPA and department.

I will finish it there. The final slide that I want to talk to and bring to the committee's attention is the fact that there is a ministerial advisory committee into the EPA appointed by the Minister for Environment, Climate Change and Water. Part of the terms of reference include:

> … the scope and adequacy of the EPA's statutory powers, and the effectiveness and efficiency of the suite of tools available to and utilised by the EPA, in enabling protection of the Victorian community and the environment, particularly in light of recent, new and emerging risks and issues.

The ministerial advisory committee is due to report to the minister in March 2016.

The CHAIR — Firstly, I thank you for the submission, which I think is one of the most helpful. Secondly, I am wondering if that presentation is available —

Dr WILKINSON — Absolutely.

The CHAIR — because it is a little different in some aspects from the submission that we have received. Thank you. We might take the opportunity to accept the submission — that one — and the previous submission as well, Keir, if that is all right.

I note here, on the back here of your printed submission, that appendix 1 and appendix 2 are blank. That is all. Before I get to my question — —

Ms SHING — Which page are you on, Chair?

The CHAIR — I am on pages 10 and 11.

Dr WILKINSON — I would need to follow that — —

Mr ROBINSON — I think they have just got lost in transmission.

The CHAIR — Okay. That is fine, but I am not — —

Mr ROBINSON — They do exist, and we will make sure if you have not got them now we will get them to the secretariat.

The CHAIR — They will come across, and they will be accepted as part of the submission too. I have done the housekeeping. So then my question is several fold. You have covered a lot of ground in the presentation about Queensland, New South Wales, Western Australia and South Australia. I note also the pointing in the covering letter from the EPA, from your chief executive, to the regulatory framework and deficiencies in our regulatory framework and suggestions about the improvements in that regulatory framework, and I welcome all of those.

I therefore ask: if those changes are made, and in the light of what you have told us about Queensland and New South Wales in particular, and WA, is it your view that with appropriate protections and some modifications in the regulatory environment that we could safely have, first, exploration in Victoria and, secondly — as a second question — some onshore gas production?

Dr WILKINSON — The decision obviously about whether to enable the development of the industry very much rests with the Victorian state government. The EPA's role as an independent environmental regulator is to ensure that environmental risks can be suitably managed. Obviously that is a key focus of this inquiry.

The CHAIR — I am being blunt here. I am accepting the points that you have made through here, and if those appropriate changes were made — —

In a sense I am seeking your input here. We understand that it is the Victorian government's decision, but I am asking for technical advice on these matters. Could, first of all, prospecting and exploration be undertaken safely? Secondly, could production be undertaken?

Dr WILKINSON — What we have tried to do in both the written submission and the verbal submission today is to outline some of the things from a best practice regulation point of view that need to be in place to facilitate not only this sector but any sector that the EPA or government wants to look at. I am not sure that I am in a position to answer your question directly. On page 4 of our submission we identify six principles of good practice regulation.

The CHAIR — Yes.

Dr WILKINSON — I think that is probably as far as the EPA can go in answering that question in terms of the principles.

The CHAIR — With respect, I understand that, and I welcome those points, but I am actually asking for your expertise to come to the fore here and for you to give us advice on these matters. I understand it is ultimately a decision for government, and our committee can do no more than advise as well, but you are the technical experts in this area. For that reason I am asking quite directly.

Dr WILKINSON — Yes. The EPA sees our key role as the independent environmental regulator for the state.

The CHAIR — I get that.

Dr WILKINSON — In that role we look to be a modern regulator. We look to follow principles of good regulatory practice, manage environmental risks and so on. In this particular case we have not been asked by government to form an expert environmental view on some of the matters under consideration. There are other departments that are taking the lead on various aspects of that, so I am not in a position to give you a — —

The CHAIR — I understand government has not asked you, but we have an inquiry from the Parliament, and that is why I am asking you.

Dr WILKINSON — Yes.

The CHAIR — You are more expert in this area than we are —

Dr WILKINSON — Yes.

The CHAIR — and we are asking you in that very direct way.

Dr WILKINSON — What I can say is if the principles of being a modern regulator and the principles outlined in our submission on page 4 are followed, that puts government and a regulator in the best place possible to regulate an industry. I do not know if that goes far enough for you, but — —

The CHAIR — That is halfway there, so then I go to the next step and I say: is your professional opinion, as the peak environmental regulator in the state, that exploration on the one hand and production on the other could be safely undertaken in Victoria if those legitimate changes that you have pointed to are met?

Dr WILKINSON — I do not believe it is my role now to answer that question in that way. I can certainly point to the principles of good regulation. As you are aware, there are other parts of government that have been responsible for leading some of the — —

The CHAIR — I am not asking you about those. I am asking you about your view.

Dr WILKINSON — I know, but I am just wanting to clarify that, because some other parts of government have been leading some of the technical work and so on, I do not feel in a position to answer that directly.

The CHAIR — No, no. Let us leave the other bits of government alone for a moment, and we will ask them quite separately. But I am asking you as the peak environmental regulator to give a clear piece of advice to this committee as to whether you believe if those legitimate points are met that, one, exploration and, two, production could be undertaken safely?

Dr WILKINSON — I am afraid I am going to disappoint you by probably repeating my previous answers, which is that in our submission what we have tried to do is carefully outline the principles of good regulatory practice. It is our view that following those for any industry puts us as a regulator, and government in terms of managing the broader risks, in the best position.

The CHAIR — Let me just put on the record that if I were the minister I would be seeking this advice from you as the peak regulator in this area in the state before we made a decision, yea or nay, or took some further step, and that is what I am doing now. I am putting on the record that you are not answering that, and I am going to indicate my disappointment, but I will hand that to — —

Ms SHING — Thanks, Chair, and I will pick up where you have left off on that.

The CHAIR — You can.

Ms SHING — I note in the first instance that you are not the minister. In the second instance I ask you to comment, having listened to your submission and read the material that you have provided to the committee, on what the role of an independent regulator is in the context of this space insofar as the terms of reference go, beyond simply the repeated attempts to positionally ask for advice as opposed to the principles that you have set out in your paper, and again to get you to explain to the committee, because it appears that we may not have the most unified understanding of what a regulator does, how it is that you are involved in assessing the efficacy or otherwise of regulatory practice under government policy?

Mr ROBINSON — Thank you. One of the first things is there are two parts to a role like this. You have talked about the industry in general. Most of the EPA's work focuses on a particular project. The bulk of the EPA's work is if government has decided that an industry should be permitted in Victoria, the EPA gets involved at that stage where the broad policies and frameworks have been set out by government. The EPA gets involved and looks at the specific project. Again the planning decision has usually been made — even that this is an appropriate location for such an industry. The EPA comes in as the regulator and says, 'If this industry is operating here, then the following safeguards are needed', and they would be reflected in the licence. Insofar as this industry is regulated by both Earth Resources Regulation and the EPA, at the moment most of the controls would be Earth Resources Regulation. As we said earlier the EPA's controls would be about if there is water to leave the site and go into the rivers, what controls would need to be in place for that water? Does that answer — —

Ms SHING — Yes, and I would like to get you to explore the positional take that you have — or the non-positional take that you have — in relation to policy issues such as the ones which the committee and government are ultimately responsible for in this context and how it is that the EPA's statutory remit and the role as an independent regulator differs perhaps from being able to 'give advice' to a committee about whether exploration and/or production should occur?

Dr WILKINSON — I guess the way we work is when individual proposals that are scheduled or not come in then we will do a thorough assessment of that, and from a scientific evidence base form a view, which is a very different role to setting the policy which then determines what needs to be regulated. That is the main distinction.

The CHAIR — But the SEPPs are set with your Report.

Ms SHING — So it is a reactive framework in which you operate.

Dr WILKINSON — Yes, and it is about administering that. We have an agreement with the department around the lead on the policy, and it is very clearly that DELWP leads on policy development. Obviously we are involved where relevant, but that is the way the lead on policy, as distinct from administering and regulating, fits.

The CHAIR — But you are involved in setting the SEPPs?

Ms SHING — Sorry, Chair, I am actually in the process of asking questions here, so perhaps you could wait until we finish to finish the row.

The CHAIR — I will.

Ms SHING — In terms of actually expressing views on policy directions and/or lobbying and/or having some form of influence over substantive outcomes in the industry or practice across the state, what is the extent to which the EPA gets involved or does not get involved in that sort of practice?

Dr WILKINSON — In terms of high-level policy decisions, obviously that is not the role of the EPA. In terms of statutory policies like SEPPs and the like, the lead for that work is the department, but the EPA obviously, given that we are a regulator, plays a role in developing those, but the department is the policy lead on that sort of work.

Ms SHING — The maintenance of your independence would then be at the forefront of why it is that you operate the way that you do?

Dr WILKINSON — Yes, and having that distinction, absolutely.

Ms SHING — Thank you very much.

Mr LEANE — It is probably not as unfair as the questions before, but I want to ask you — —

Ms SHING — My questions were awesome; what are you talking about?

Mr LEANE — I am not talking about yours. I want to refer to the New South Wales Chief Scientist and Engineer's report, which you have referenced in your submission — and I am happy for you to take it on notice considering there is not much time left as well. The first dot point is establish an evidence-based system to select areas suitable for coal seam gas. Has that evidence-based system actually been produced in New South Wales? I am trying to envisage that areas that would be suitable for coal seam gas in New South Wales to confine the environmental risks might not actually geographically exist in our jurisdiction, in Victoria.

Mr ROBINSON — The key point there is that they were trying to balance, as I read it, the environmental consequences with what else the land was being used for — balancing those two things. For example, they suggested that water supply catchments be excluded — so that Sydney's water supply catchment be excluded from the activity.

Mr LEANE — And other regional cities?

Mr ROBINSON — I do not think they have finished that process yet, but with Victoria the same question would arise: are there certain activities where from a land use planning point of view it is not compatible? That is not the EPA's call, but just in terms of our understanding from reading the document, they were trying to balance land use planning and the value you might get out of the unconventional gas.

Mr YOUNG — Mr Davis just told us that if he were the minister, he would ask you that question. Has the minister asked you that question in any way, shape or form?

Dr WILKINSON — No.

Mr YOUNG — Thank you.

Ms DUNN — Thank you, Dr Wilkinson and Mr Robinson, for your contributions so far. I want to draw a little on your submission and the comments recently by the Victorian Auditor-General's Office, which talked about the regulators and the regulatory framework not being equipped to deal with the risk in relation to unconventional gas. Certainly your submission highlights some improvements that need to happen in relation to the regulatory framework, and there are those three dot points around risk on page 4 and also those six principles on the same page around enhancing the regulatory framework. With all of that in mind, I am wondering whether it is your view that at the moment the EPA itself is sufficiently experienced, resourced and has the capacity to enforce and eliminate risks. If not, what needs to happen to see that sufficient capacity is in place?

Dr WILKINSON — Our submission outlines some of the areas that you mention, where we think there are opportunities for improvements and so on. What happens in the EPA when an emerging either industry or technology comes along is that we look at the capability in house, we look at where we need to supplement that, we have an expertise framework that we work on to help make those judgements around scientific and applied engineering expertise, and we would look at what resources would be needed to support that given the projections of the demand for that particular sector or that particular emerging technology.

Ms DUNN — So in relation to unconventional gas, because there is a moratorium at the moment and the government has not made a decision in relation to this, has the EPA turned its mind at all in terms of looking at any of those capabilities as yet through that process you have outlined?

Dr WILKINSON — Not in any detail. We, on an annual basis, obviously review our annual plan and so on, so that if there are changes in policy or budget or whatever it happens to be we use that normal annual budget planning to determine priorities based on the needs. At the moment the only other thing I should say in response to your question is there is the inquiry into the EPA going on at the moment and some of the issues you raise are part of the terms of reference for that inquiry as well, so there is that layer going on at the moment on top of our normal business planning-type work.

Ms DUNN — Thank you so much for that answer. In relation to setting your budget and basing it on the priority needs for the work plan ahead of you for the year, has the EPA factored into any budget line unconventional gas and any of these matters that might have been raised in your submission?

Dr WILKINSON — At the moment we are budgeting and planning on the basis of the current policy settings.

Ms DUNN — Thank you so much for your answer.

Ms BATH — Thanks, Cathy. On page 8 of your submission, point 8, which is the conclusion, states:

> If a sustainable industry is to be developed, it should balance environmental, economic and social values. EPA considers that a coal seam gas … or shale and tight gas … industry … should be managed through —

and you have four dot points there.

Under the current government's terms of reference that have been put forward for us to consider, I would like you to give some commentary around us developing further scientific knowledge at a local scale, applications of best practice and engineering standards, and strengthening integrity around regulatory frameworks, noting that also in your submission you have listed overseas, Queensland, New South Wales et cetera. How can we best gain an understanding, with respect to your conclusion, in this inquiry?

Dr WILKINSON — I will pass that to my colleague, Tony.

Mr ROBINSON — I will answer the first two and then Cathy can answer the regulatory framework one. In terms of scientific knowledge and local scale, as I mentioned earlier there are two elements to it. One is that there could be more work done in the Gippsland region or in the Otways region, either by government or by industry, on a broad scale to get a broad understanding.

The previous presenters talked about the geology and understanding that better and the groundwater and understanding that better, things like that. But depending on if the industry gets approval to proceed, there are also the specific cases. At a local scale, if a company said, 'We would like to drill here', then they need to have done the research that gives a lot of information. When we are talking local scale it is both local in terms of the Gippsland or Otways regions and local in terms of being even more localised around a particular proposal. There would be what could be learnt from a desktop point of view and at some point, if it was to proceed, there would be some drilling and then potentially further steps.

That was the idea of further scientific knowledge. and there are stages in that. You need to do enough to move to the next stage and, if you are confident, you move to the next stage, and at some stage, further along in the process, you end up with a specific request to drill or have a project in a particular area.

In terms of best practice engineering standards, we mentioned that places like Queensland have guidelines on wells and fracturing and these kinds of things, so both interstate and overseas guidelines are being developed. The question for Victoria would be whether to adopt some of those standards and call those best practice standards or whether it would be warranted that Victoria develop its own specific ones.

The CHAIR — And modify them in some way.

Mr ROBINSON — And modify those, again to the local situation. It is a developing area so the technologies, both the chemicals and the understanding of the chemicals, used in the drilling and the safeguards around the wells and failures, are all developing as time goes on. What we would be looking to do is to pick up from interstate and around the world what the most modern practices are. Again, that would primarily be any company that is wanting to proceed to lay that out and put their case as to why this is best practice. Then the EPA's role is that kind of independent reviewer role, where we come in and double check that. We do not say that a proposal is best practice; we get the applicant to say that and then we review it. If we need to, we would get specialist and expert advice in to check that.

Dr WILKINSON — In terms of the last dot point, I guess inclusion of that there in the conclusion is really trying to synthesise the six regulatory points or principles that we have identified on page 4 of the submission.

Mr RAMSAY — My question was actually very similar to the Chair's, despite his best efforts to get a response from you in relation to the EPA's position in relation to the current regulatory framework and possible future one. I read the Auditor-General's report in relation to conventional gas and managing of risk, and his conclusion was that the regulatory framework currently does not provide some security or certainly confidence that risks are managed properly under that framework. I note that in your submission you talk about current Victorian regulatory framework not being designed to address risks, which is true, and the development of further scientific knowledge. I was going to pose the question a little bit differently to the Chair — and I note that you have provided in your submission other states' regulatory frameworks — and I have to say that our groundwater aquifers are different to those in other states. Our population is different. There are a whole lot of different ingredients in Victoria that are not similar to other states. I am not sure you can compare regulatory frameworks from one state to another.

We currently have a moratorium. The advice that you might give in relation to the Auditor-General's report, the current regulatory framework and the need for more scientific work, if I were the minister, what advice would you give me currently in relation to the moratorium now and the decision the Victorian government might make given the Auditor-General's report, the current regulatory framework and the work that has not been done up to this stage in relation to that scientific data knowledge?

Dr WILKINSON — In terms of the way forward for the industry, that is a policy decision for the government to make. I would absolutely accept that the Victorian context is very particular, different, and needs to be looked at in more detail given the local and regional conditions here. I think that has come out in many of the reports that have been done and obviously in part of other evidence given to this committee. Certainly in various reports across many jurisdictions the need for robust regulatory frameworks is absolutely essential. In our submission we identify some areas where there is room for improvement in those and we try to make suggestions for other processes going on at the moment which could look at that. In terms of the way to regulate this sort of industry, the principles included in the submission are our attempt to be as transparent as possible as to the conditions that would need to be in place.

The CHAIR — I thank you both for your submission. We very much appreciate the additional material. It was a very helpful submission. Can I perhaps ask one more further point about the status of the submission, including the additional appendices: has that submission been coordinated through central government?

Dr WILKINSON — We have made this submission in our role as an independent statutory authority. Unconventional gas is relevant to EPA, and it is in that capacity that we made a submission. We had notified other relevant departments and so on of the submission, but it is our submission.

The CHAIR — I appreciate that. Thank you.

Committee adjourned.