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Submission to the Inquiry into:
Environment Protection and Biodiversity Conservation Amendment (Retaining Federal Approval Powers) Bill 2012.

It is essential that the Federal Government retains its approval powers to properly protect the Australian environment and biodiversity conservation while at the same time protecting our water resources and the rights of rural communities. It must not allow the states to assume such important approval powers. Below I shall set out my reasons and my argument for retention of federal approval powers.

Coal Seam Gas Extraction (CSG)
CSG is the most persuasive reason for retaining approval powers by the Federal Government. This invasive method of gas exploration and extraction is currently being mined in most Australian states and territories in far too much of a hurry without sufficient safeguards or understanding of its environmental impacts. To paraphrase a statement, which fits the CSG situation like a glove, made by journalist Brian Robins in The Age BusinessDay (15.1.2013) about the Heywood upgrade: "One of the prime tenets of business is 'risk and return.' Yet in the electricity and gas sector, there is precious little risk and plenty of return –and what risk there is, typically of getting a forecast wrong, is explained away by pointing to changed conditions, with consumers left to foot the bill as the consultants go back to their spreadsheets."

In the case of coal seam gas, the agricultural landholders and future generations may well be left to handle the contamination cost due to insufficient information about the serious levels of methane concentrations within the Australian coal seam gas fields. It certainly needs better understanding by the industry and even better understanding by the federal government. If it had been left to the states each of which would have gone ahead separately with even less concern than the federal and consequently, in the event of a

catastrophe, the industry and the states would have expected the federal government to provide the support and probably the solution.

There has been little or no field studies or independent research into the short term effects let alone the long term effects of this unconventional means of extracting gas from the land and the sea for commercial use. We quite literally do not have enough information about the impact of the CSG industry on our groundwater, food security, rural communities, on threatened species, the climate, the seas around our coasts and the Great Barrier Reef.

As recently as November 2012, in an interview on the **ABCTV 7.30** programme, researchers from the Southern Cross University explained how they had uncovered heavy concentrations of methane and carbon dioxide in the air on the coal seam gas (CSG) fields in Southeast Queensland. Methane apparently is twenty one times more powerful than carbon dioxide in the warming of the planet.

Some of us have been following the publicised community concerns in the United States of this risky new gas-capturing industry –industrial gas drilling that they call fracking. The US debate is extremely passionate and also very revealing. Fracking requires millions of gallons of water, sand and hundreds of toxic chemicals that are pumped deep underground under enormous pressure to release gas trapped in rock formations. In some states, according to some reports, roads are crumbling under constant use by hundreds of trucks and heavy machinery travelling to and from drilling sites which are said to be in the thousands. In Wyoming for instance, on some days the air is so polluted that residents are advised to stay indoors because many of the toxic chemicals used in fracking fluids are known carcinogens.

The debate in New York State has become particularly problematic because a report has found that fracking for gas not only uses toxic chemicals that can contaminate drinking and groundwater –it also releases substantial quantities of radioactive poison from the ground. Importantly, the type of radioactive material found in the Marcellus Shale region of New York State and brought to the surface by horizontal hydrofracking is the type that is particularly long-lived, and could easily bio-accumulate over time and deliver a dangerous radiation dose to potentially millions of people long after the drilling is over. (Read the whole article, *Fracking Radioactivity,* by Karl Grossman at the end of this submission. Author Karl Grossman is a professor of journalism at the State University of New York/College.) **1.**

On the 17th November 2012, I wrote to the federal minister about the Southern Cross University study findings of heavy concentrations of methane in the air on the coal seam gas fields in Southeast Queensland. As well I enclosed a copy of the *Fracking Radioactivity* article by Professor Grossman. Minister Ferguson replied to say that a draft national harmonised regulatory framework for CSG has just been released for public comment until the end of February 2013. In addition, he said, the CSIRO and the DCCEE are collaborating to further investigate fugitive emissions from CSG in Australia. The project will begin early in 2013.

The Minister went on to say in his letter “it is worth noting that Australia’s CSG reserves are found in different geology and, unlike shale gas extraction in the US, only a minority of CSG wells in Australia require hydraulic fracturing.” He did not say that there was no likelihood of any radioactivity being released. He left any mention of the possibility very much up in the air. His reliance on the Government’s carbon price providing a strong incentive for the reduction of fugitive emissions, including those from CSG, seemed

rather pathetic considering that the CSIRO/DCCEE project to further investigate fugitive emissions from CSG hasn't even begun yet.

He also made a point of saying that the Government welcomes any "additional independent and credible research findings in Australia to assist with the development of robust public policy, provided these meet the tests for good science, including peer review." One has to wonder about the laxity of any regulatory CSG policy and the haste with which some of the states proceeded before licences were granted. Surely, his statement proves how necessary independent and credible research has been necessary from day one.

Obviously, there was no need to rush ahead with coal seam gas extraction. The gas was trapped in rock formations for millions of years. Let it be --while sound research and proper solutions are found to deal with recognised problems.

Why weaken Australia's Environment Laws?
Apparently, big business leaders are demanding the weakening of Australia's environment laws which is one of the reason's they want the states to take over approval powers from the Australian federal government. The leaders in the push are the industrialists who are always in dispute with environmental law because it limits their power in mining especially.

They see the states as easier to manipulate. They are probably right because if environment protection had been left to the states they would have put oil rigs in the Barrier Reef and dammed the Franklin River.

The Australian people need those Commonwealth environmental laws to be strongly enforced for the betterment of the country. The best protector is the Australian federal government because it was the one that introduced the environment protection legislation.

Drilling Projects by the big miners
In October 2012, there were two such projects noted, where environment protection was essential because they are in the seas around our coastline but perhaps not within a Commonwealth marine parks "no oil and gas" zone.

The first was off **Kangaroo Island.** Bight Petroleum currently has permits to explore for offshore petroleum in an area to the west of the island, known as the Kangaroo Island Canyon and Pools, and intend to undertake seismic tests in early 2013 and start drilling in 2014. The Kangaroo Island Canyons are a critical breeding and feeding area for many threatened, endangered and protected species –such as the Sea-lion and the Blue Whale. The area is critically important for many species targeted by the South Australian Fishing Industry. The federal minister has the power to reject Bight's plans and at least has to declare them a 'controlled action' under the EPBC Act to be assessed via a Public Environment Report, the most comprehensive assessment process available under the Act. It's easy to see why industrialists want to weaken environmental control.

The second project was off the **Kimberley coast of Western Australia.** Woodside Petroleum plans to drill up to 90 wells in and around **Scott Reef,** a critical piece of habitat for green turtles, a genetically distinct species at risk of going extinct, as well as of habitat for countless other sea and land creatures. Then, Woodside wants to pump this gas to a proposed land-based hub at **James Price Point.** This means the drilling of such a huge number of wells runs the decided risk of destroying habitat of green turtles and others as well as ruining parts of the Kimberley on land and at sea. After all, the proposed hub is hardly likely to be insignificant in size or a silent acquisition to the Kimberley land

and seascapes.

So, presumably the same power rests with the federal Minister to reject outright Woodside Petroleum's plans for that part of the Western Australian coast or as an absolute minimum to declare the plans a 'Controlled Action' under the EPBC Act to be assessed via a Public Environment Report like that for South Australia's Kangaroo Island.

Sonar testing and Drilling
It is of interest to note that a US Navy draft impact study released in May 2012 noted that the Navy's training and testing with explosives will kill over 1,000 animals over the next five years. Sonar testing, although an effective military tool, has been shown to disrupt the behavioural and feeding patterns of marine mammals. Its use of this technology could "unintentionally cause more than 1,600 instances of hearing loss or other injury to marine mammals each year" –much higher figures than previously thought. It is worth thought in relation to drilling that in the seas around our coastline there are marine creatures also sensitive to noise. Drilling for oil or gas may not produce the same degree of noise as sonar testing but it may well affect our marine creatures just as acutely.

In conclusion
The national government must accept that it has the responsibility to protect these places and wildlife and the people who live and work in these areas of concern. It should not be prepared to surrender that responsibility to the states. The people including the First Australians have entrusted the national government to protect the environment for all of us and not weaken those laws for a powerful few.

Reference 1. follows:-

Fracking Radioactivity

By Karl Grossman

Fracking for gas not only uses toxic chemicals that can contaminate drinking and groundwater -- it also releases substantial quantities of radioactive poison from the ground that will remain hot and deadly for thousands of years.

Issuing a report yesterday exposing major radioactive impacts of hydraulic fracturing-known as fracking -- was Grassroots Environmental Education, an organization in New York, where extensive fracking is proposed.

The Marcellus Shale region which covers much of upstate New York is seen as loaded with gas that can be released through the fracking process. It involves injecting fluid and chemicals under high pressure to fracture shale formations and release the gas captured in them.

But also released, notes the report, is radioactive material in the shaleincluding Radium-226 with a half-life of 1,600 years. A half-life is how long it takes for a radioactive substance to lose half its radiation. It is multiplied by between 10 and 20 to determine the "hazardous lifetime" of a radioactive material, how long it takes for it to lose its radioactivity. Thus Radium-226 remains radioactive for between 16,000 and 32,000 years.

“Horizontal hydrofracking for natural gas in the Marcellus Shale region of New York State has the potential to result in the production of large amounts of waste materials containing Radium-226 and Radium-228 in both solid and liquid mediums,” states the report by E. Ivan White. For 30 years he was a staff scientist for the Congressionally-chartered National Council on Radiation Protection.

“Importantly, the type of radioactive material found in the Marcellus Shale and brought to the surface by horizontal hydrofracking is the type that is particularly long-lived, and could easily bio-accumulate over time and deliver a dangerous radiation dose to potentially millions of people long after the drilling is over,” the report goes on.

“Radioactivity in the environment, especially the presence of the known carcinogen radium, poses a potentially significant threat to human health,” it says. “Therefore, any activity that has the potential to increase that exposure must be carefully analyzed prior to its commencement so that the risks can be fully understood.”

The report lays out “potential pathways of the radiation” through the air, water and soil. Through soil it would get into crops and animals eaten by people.

Examined in the report are a 1999 study done by the New York State Department of Environmental Conservation “assisted by representatives from 16 oil and gas companies” on hydrofracking and radioactivity and a 2011 Environmental Impact Statement the agency did on the issue. It says both present a “cavalier attitude toward human exposure to radioactive material.”

Radium causes cancer in people largely because it is treated as calcium by the body and becomes deposited in bones. It can mutate bones cells causing cancer and also impact on bone marrow. It can cause aplastic anemiaan inability of bone marrow to produce sufficient new cells to replenish blood cells. Marie Curie, who discovered radium in 1893 and felt comfortable physically handling it, died of aplastic anemia.

Once radium was used in self-luminous paint for watch dials and even as an additive in products such as toothpaste and hair creams for purported “curative powers.”

There are “no specific treatments for radium poisoning,” advises the Delaware Health and Social Services Division of Public Health in its information sheet on radium. When first discovered, “no one knew that it was dangerous,” it mentions.

White's report, entitled "Consideration of Radiation in Hazardous Waste Produced from Horizontal Hydrofracking," notes that "radioactive materials and chemical wastes do not just go away when they are released into the environment. They remain active and potentially lethal, and can show up years later in unexpected places. They bio-accumulate in the food chain, eventually reaching humans."

Under the fracking plan for New York State, "there are insufficient precautions for monitoring potential pathways or to even know what is being released into the environment," it states.

The Department of Environmental Conservation "has not proposed sufficient regulations for tracking radioactive waste from horizontal hydrofracking," it says. "Neither New York State nor the Nuclear Regulatory Commission would permit a nuclear power plant to handle radioactive material in this manner."

Doug Wood, associate director of Grassroots Environmental Education, which is based in Port Washington, New York, and also editor of the report, commented as it was issued: "Once radioactive material comes out of the ground along with the gas, the problem is what to do with it. The radioactivity lasts for thousands of years, and it is virtually impossible to eliminate or mitigate. Sooner or later, it's going to end up in our environment and eventually our food chain. It's a problem with no good solution - and the DEC is unequipped to handle it."

As for "various disposal methods…contemplated" by the agency "for the thousands of tons of radioactive waste expected to be produced by fracking," Wood said that "none… adequately protect New Yorkers from eventual exposure to this radioactive material. Spread it on the ground and it will become airborne with dust or wash off into surface waters; dilute it before discharge into rivers and it will raise radiation levels in those rivers for everyone downstream; bury it underground and it will eventually find its way into someone's drinking water. No matter how hard you try, you can't put the radioactive genie back into the bottle."

Furthermore, said Wood in an interview, in releasing radioactive radium from the ground, "a terrible burden would be placed on everybody that comes after us. As a moral issue, we must not burden future generations with this. We must say no to fracking -- and implement the use of sustainable forms of energy that don't kill."

The prospects of unleashing, through fracking, radium, a silvery-white metal, has a parallel in the mining of uranium on the Navajo Nation.

The mining began on the Navajo Nation, which encompasses parts of Arizona, New

Mexico and Utah, during World War II as the Manhattan Project, the American crash program to build atomic weapons, sought uranium to fuel them. The Navajos weren't told that mining the uranium, yellow in color, could lead to lung cancer. And lung cancer became epidemic among the miners and then spread across the Navajo Nation from piles of contaminated uranium tailings and other remnants of the mining.

The Navajos gave the uranium a name: *Leetso* or yellow monster.

Left in the ground, it would do no harm. But taken from the earth, it has caused disease. That is why the Navajo Nation outlawed uranium mining in 2005. "This legislation just chopped the legs off the uranium monster," said Norman Brown, a Navajo leader.

Similarly, radium, a silvery-white monster, must be left in the earth, not unleashed, with fracking, to inflict disease on people today and many, many generations into the future.

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