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21 August 2020

Submission: Additional material provided by Santos and the Department

Thank you for the opportunity to comment on the new material submitted by Santos and the Department's response to the IPC's questions about the Narrabri gas project.

We were disappointed to discover that the document providing the Department's answers appears to be incomplete: it is cut off before the bulk of the information about salt waste storage in the Queensland gasfield and does not include a specific response to the IPC's question about the Narrabri gas project's relationship to Stage 1 of the Net Zero Plan. Should the complete information be made available, we will take the opportunity to write to the IPC about the matters raised if we consider they contain errors, inaccuracies or biases.

We note that the advice provided by Santos from Richard Lancaster SC was prepared without the benefit of reading the final submissions made by Robert White on behalf of the North West Alliance and its member groups. The issues raised in it are already addressed by Robert White, specifically the question of adaptive management. We also note that our previous submissions to the IPC on this project have engaged in detail with the proposed conditions of consent and their inadequacy for the purpose of mitigating against the serious and irreversible environmental consequences of this project.

We further note that the EDO on behalf of the North West Alliance and its member groups submitted questions to the IPC to ask the Department and other government agencies that specifically cited certain conditions of consent. The questions highlighted the inability of these conditions to mitigate the impacts they purport to address. We assume Richard Lancaster SC had not had the benefit of reading these submissions and since the IPC did not ask the Department or agencies many of the questions submitted by the EDO for the purpose of clarifying the adequacy and efficacy of specific conditions,¹ the question of how effective and appropriate these conditions are is open.

It is clear from the voluminous information provided to the IPC by the proponent, the Department, the community and experts on behalf of the North West Alliance that there are at least two issues of profound contention about which the IPC is being given dramatically divergent opinion. These are:

¹ With one exception. The IPC did ask the EPA about its previous request that vague phrases like "all reasonable and feasible measures," "as soon as practicable" "to the greatest extent practicable" and "as soon as reasonably practicable" be replaced with measurable and quantifiable measures or methods yet these phrases persist in the draft conditions. The EPA did not engage substantively with any of the conditions where this phrase appears in its disappointing response.

- The seriousness of the potential impacts on groundwater, which is bound up with the uncertainty of Santos' modelling, application of the precautionary principle and the inadequacy of the specific consent conditions proposed by the Department to mitigate this risk. On this subject we would draw the IPC's attention to the further advice from Dr Matthew Currell, submitted by the EDO in response to Santos' final submission; and
- The core justification for the project, that the gas resource that would be produced by it is "needed" by New South Wales, as distinct from "wanted" by Santos. This question is bound up with the role of gas in New South Wales' energy system over the next two decades and the adequacy of supply in the eastern gas market, as well as NSW and Australia's role in responding to the now extremely urgent need to reduce greenhouse gas emissions. We would draw the IPC's attention to further advice provided by Alistair Davey and Professor Penny Sackett relevant to these issues.

It is our observation that the markedly different views being put to the IPC about these issues cannot be reconciled without further advice being obtained, independently of the Department and from experts that have no association with any company involved in this project or the gas industry more broadly.

We strongly urge the IPC to obtain this advice.

Further, on the basis of the new documents provided by Santos and the Department, we believe there is sufficient information in front of the IPC to refuse the project:

- No further information has been provided about the destiny of the salt waste from this project and only generic information provided about mitigation options for the serious environmental risks posed by that salt waste by Prof Stuart Khan. The incomplete answers provided by the Department at least indicate this: "brine from the treatment of produced water is currently being stored in appropriately engineered storage ponds" – i.e. it has not been disposed of, or reused.
- This project will make a material contribution to the pollution that is driving global warming and climate change: it will *add* about 5 MtCO₂ annually to Australia's direct emissions at a time when Australia needs to achieve about 7.5 MtCO₂ new *reduction* every year to meet its 2030 goal, as well as maintaining the reductions found in previous years. The Department's assertion that the downstream portion of these greenhouse emissions "are likely to occur whether the Narrabri Gas Project is approved or not" is illogical and not compatible with physics nor with their claim that the gas from Narrabri is "needed."
- This project will degrade biodiversity in an important forest already under severe environmental stress. The assessment of biodiversity was too crude to recognise this impact since it did not individually assess relevant species and populations, nor did it adhere to the "avoid, mitigate, offset" hierarchy required under NSW and Federal law.

Richard Lancaster's opinion asserted that experts engaged by the North West Alliance have not engaged with the adaptive management arrangements proposed by Santos and the Department. We have repeatedly attempted to do this but our questions and submissions about the proposed conditions and their problems have not been taken up. As Lancaster's advice concedes, "an adaptive management approach may be done well or it may be done poorly, and it may not always be an appropriate response to potential groundwater impacts in particular circumstances." Given the heavy reliance of both Santos and the Department on this approach, we would have expected greater attention from the IPC as to whether the conditions of consent actually achieve what is

claimed or not. We hope that now that this has been raised in the Lancaster advice, our previous and new comments on this issue will be treated seriously.

In this submission, we have not addressed each of the four new documents discretely but structure our response around the critical issues raised, drawing from all four of the documents as they deal with these issues.

Ecologically sustainable development

The Department has submitted in its response to the IPC's questions that despite the lack of any direct reference to the principles of ecologically sustainable development the Department "considers ESD to be at the heart of the whole report" it previously prepared recommending approval of the Narrabri gas project. The answers document claims that this is reflective of its preference to avoid a "formulaic or template approach." Similarly, Richard Lancaster SC argues for Santos that the lack of specific reference to the principles of ESD does not of itself indicate that they have not been addressed.

However, issues of ecologically sustainable development *have* been specifically raised throughout this project's assessment by experts and the community. We would draw the IPC's attention to Lock the Gate's submission on the project EIS in 2017, which on the first page argued that "There are serious questions of inter-generational equity that are scarcely touched upon in the EIS for this project that require the serious attention of the NSW Government." Our submission expressly presented two issues in relevance to the inter-generational inequity of the project:

- Groundwater drawdown, which will disproportionately affect future generations;
- Methane release into soils, water and the atmosphere, which will disproportionately affect future generations for whom mitigation opportunities will not be available.

Furthermore, in our submission, we referred to expert reviews submitted at that time, in 2017, on behalf of the North West Alliance, which warned that the assessment of risks by Santos was flawed and approval would be contrary to the precautionary principle. These specific principles were raised with the Department by us and others three years ago but in the time since neither the Department nor the proponent have taken them seriously.

In making these submissions, we and others were not, in the words of Richard Lancaster SC, seeking a mere mention of these principles or recitation of specific text. This is, in fact, what the Department now offers, recitation of the principles of ESD without meaningfully engaging with them or with the copious material put to them demonstrating the fundamentally unsustainable basis of this project. What we sought from the Department was substantial engagement with the public's concerns and the expert evidence in the context of the principles of ecologically sustainable development. This they have patently failed to provide.

The IPC is in a difficult position, because, as Professor Sackett's evidence (and others') shows, catastrophic and irreversible global warming is very nearly locked in and inevitable. There are a few short years until this will be the case. The emissions locking in this catastrophe are *all* coming from individual facilities, vehicles or activities, no single one of which, in the Department's words "can affect the global climate on its own." It is not credible to argue that since none of these projects are creating the problem alone that all of them are therefore acceptable. The IPC may also find it difficult to sustain the position that it cannot grant consent to *any one single* additional activity that contributes to the problem, since that may stray into the realm of policy creation. Therefore, the Commission must find a way in between these positions.

We contend that for fossil fuel energy projects in particular, a very high degree of evidence and consideration would be needed to determine that such a project “meets the needs of the present generation without compromising the ability of future generations to meet their needs.” This is because the *needs* of the present generation *can be met without these projects*. We know how to make electricity without burning fossil fuels and we are fast developing the expertise to replace them in industrial processes. This makes the desire for this gas a *preference* (by some) but not a *need*. On the other hand, climate change will compromise the ability of future generations to meet their actual needs in complex, lasting and very severe ways. The evidence of this is myriad and voluminous. Given this, the IPC must seriously consider the purported “need” for this project and that need must be demonstrated *specifically for this project*, rather than for fossil fuel or gas projects in general. We agree there is no general policy against new fossil fuel projects in New South Wales. We accept that it may be that there are fossil fuel energy projects for which the need of the present generation is so pressing and unique that it justifies contributing, incrementally, to fatally compromising the needs of future generations by adding to global greenhouse pollution. However, such a case has not been made by the proponent or the Department for this specific project.

We find it telling that the Department, in response to a specific request from the IPC, says that it would be “a difficult and somewhat arbitrary process to disaggregate the conditions and link them in an explicit way with each of the principles of ESD.” We do not accept this argument and respectfully suggest that the Department’s contention that the principles of ESD are addressed everywhere is the same as saying they are addressed nowhere.

There may have been conditions the Department could have contemplated to address these matters, but no such conditions have been proposed and the Department’s inability to point to specific conditions that address the public’s concerns about these issues is reflective of that failure. As stated above, Lock the Gate has engaged in detailed response to the proposed conditions of consent and has highlighted specific failures and weaknesses in them.

Gas prices and energy

It appears to us that Santos is attempting to maintain several contradictory positions about gas prices, markets and the justification for the project. The company is attempting simultaneously to:

- assure the IPC that it has been receiving high prices for its gas A\$12/GJ this year in spite of the oil price collapse, so are therefore confident that the gasfield will create a net positive economic effect,
- at the same time, and for the first time, argue now that the Narrabri gas project will bring down gas prices in Sydney, showing forward prices of between \$8-10/GJ for the duration of the next two decades,
- also maintain that gas from Narrabri will play a role in electricity production, in spite of data showing that gas-fired electricity demand will decline during this decade and gas will only be competitive with battery-supported renewable energy after 2030 if the price is \$4/GJ, roughly half the cost of producing and piping gas from Narrabri.

Interestingly, the graph provided by ACIL Allen at Figure 3.7 in the new economic report indicates that “availability of gas” is the chief concern of *less than a fifth* of the commercial and industrial users responding to questions from the ACCC about the problems with the market. Twice as many were chiefly concerned about the price of gas. We urge the IPC to exercise caution about the argument that this gasfield will increase competition, given that it is being proposed by one of the biggest players in the current market, and the one that is acknowledged to have plundered domestic

gas supplies in order to fulfil over-ambitious gas export contracts from its Queensland CSG operations. Alistair Davey's most recent advice submitted for the North West Alliance addresses this question.²

Santos mounts generic arguments about other countries' use of gas when coal power stations close. Santos makes the general comment that, "If the gas produced at Narrabri was simply used to displace coal-fired power generation in the Australian energy market, it would be expected that this would also reduce CO₂ emissions." This is a pretty significant "if." The evidence suggests that gas use in the National Electricity Market is expected to decline over the next decade, and will not be taken up post-2030 unless gas is significantly cheaper than the gas that could be extracted at Narrabri.

The submission from Santos mentions the *Integrated Systems Plan 2020* (ISP) without frankly admitting that the demand for gas fired electricity will decline in the next decade. However, the ACIL Allen report admits this: "Gas Power Generation demand is likely to decline from 92 PJ/a in 2020 to 30PJ/a by 2028." They anticipate that it will rise again post 2030 when more coal power stations close, but AEMO's analysis in the ISP is clear that this will be price-dependent: after 2030, gas will only be competitive with battery-firmed renewable energy if it can be produced and delivered for \$4/GJ – far cheaper than gas than the expected per GJ price of the Narrabri gasfield. Santos cites the closure over the next decade of Liddell, Vales Point, Eraring and Bayswater but the "substantial role" for gas in the electricity market is limited to gap filling. The *ISP* makes it clear that after 2030, this gap filling role could be filled by battery storage, with the key questions being price and climate change policy.

Similarly, Santos mentions Stage 1 of the *Net Zero Plan*, but not its goal of introducing hydrogen as 10% of the gas in NSW's network. The Department, too, fails to mention this. The Department's answers document does not directly answer the IPC's question about how Narrabri relates to Stage 1 of the *Net Zero Plan*, although it is briefly mentioned in the answers on ecologically sustainable development.

Climate change

Santos claims in its final submission that the company supports limiting global temperature rise to less than 2 degrees C. The submission, however, fails to describe how the Narrabri gas project is consistent with that goal. It doesn't engage at all with the information put forward by Professor Penny Sackett, for example, which puts Narrabri's greenhouse gas contribution in the context of Australia's greenhouse commitments and a carbon budget consistent with the 2 degree goal. It is true that there is no specific policy in New South Wales that requires consideration of carbon budgets, but the IPC is required to consider the contribution this project will make to climate change. Since it is the *accumulation* of greenhouse emissions in the atmosphere, not the annual level of emissions, that drives global warming, an understanding of the remaining carbon budget to achieve the goals of the Paris climate agreement is necessary context for consideration of this project.

Similarly, the Department has failed to directly answer the IPC's request for information about how Narrabri relates to Stage 1 of the *Net Zero Plan*, which commits New South Wales to reducing its greenhouse gas emissions over the next two decades. Since this project will *increase* greenhouse gas emissions, it would appear on the face of it that it is contrary to New South Wales' climate change

² See also the advice provided by Alistair Davey for Pegasus Economics for an account of the activities of Santos GLNG purchasing domestic gas from third parties to fulfil its export contracts, thereby hastening the depletion of gas reserves that were supplying commercial and industrial users in New South Wales and elsewhere in the eastern gas market.

goals, if not specifically ruled out in policy. In the Department's answer to the IPC's request for information about ecologically sustainable development, it makes this extraordinary claim about the downstream emissions from the burning of gas produced at Narrabri (which burning or other use is, after all, the purpose of the project):

Essentially, these emissions form part of the "background" emissions in NSW and would be more than offset by the substantial reduction in greenhouse emissions that is likely to occur as a result of NSW's coal-fired power stations and as a result of the implementation of a range of other State and Commonwealth policy initiatives aimed at ensuring there is an orderly transition to a lower emissions economy in NSW.

It is not at all clear what distinction the Department is making here by describing some greenhouse emissions as "background" emissions. It is only clear that they mean the IPC to understand that they matter less in some way. The Department's generic claim that the downstream emissions from the gasfield would be "more than offset" by the reduction in emissions from the closure of power stations is not based on any actual assessment or consideration of the issue. Stage 1 of the *Net Zero Plan* aims for a 35% reduction on greenhouse gas levels by 2030. There's only one NSW coal power station known and on the record as intending to close in that time³, Liddell, responsible for 8.6 million tonnes a year of greenhouse gas emissions, or a bit over one and a half Narrabri gasfields⁴. Is the Department claiming that if the Narrabri gasfield doesn't proceed that Liddell *won't* close? If that is not what is being claimed, then how can the Department possibly consider Liddell's closure to be an offset for the emissions to be generated by the Narrabri gasfield? They cannot. This material cannot be taken seriously.

The rest of New South Wales' coal-fired power stations are expected to close after 2030, but whether gas will play a role in replacing that capacity depends, as AEMO makes clear in the ISP 2020, on the price of gas and on climate change policies. Unlike in previous decades, gas is not competing with coal, it is competing with renewable energy. This is true in Australia and it is also true internationally. Santos cites modelling for the *World Energy Outlook 2018* (WEO 2018) to justify the role of gas but that document clearly states: "A three-way race is underway among coal, natural gas and renewables to provide power and heat to Asia's fast-growing economies." Santos specifically cites the WEO 2018 estimation for the Sustainable Development Scenario (which Santos claims is consistent with a two degree pathway) that "global gas demand grows by 14 per cent by 2040 compared to 2016." However the company fails to mention that growth in gas demand since 2016 **has already exceeded this amount** and so the WEO 2018's Sustainable Development Scenario would see gas demand *contract* on 2018 levels by 3.4%. This is also evident from the UNEP's *Production Gap Report* which in 2019 found that to achieve the Paris Climate Agreement goal of keeping average global warming well below 2 degrees, global gas production needs to peak by 2030 and decline after that. To meet the safer 1.5 degrees warming limit, gas production needs to peak this year.⁵

Santos mentions Stage 1 of NSW's *Net Zero Plan*, but not its goal of introducing hydrogen as 10% of the gas in NSW's network. Instead they focus on the "Memorandum of Understanding – NSW Energy Package" signed between the state and Federal governments earlier this year. This MOU, as Santos identifies set a (non-binding) target of adding 70 petajoules of gas per year into the NSW market,

³ There is speculation that Vales Point may close before 2030, but its owner insists this is not the case.

⁴ Liddell greenhouse emissions 2018 obtained from the Clean Energy Regulator's National Energy and Greenhouse Reporting website.

⁵ UNEP, *The Production Gap Report*. 2019

though Santos fails to mention two other potential projects, one of which already has development consent, were conceived in the MOU as potentially meeting this target.

The Department falsely stated in its answers to questions from the IPC that “there is no policy support at either the State or Commonwealth level that would support the imposition of conditions on an applicant to minimise the scope 3 emissions (i.e. the downstream emissions of third parties) of its development proposal.” In fact, section 14 (1) of the Mining SEPP explicitly *requires* of the IPC that before it grants consent to a development under that policy, it must “consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner,” including conditions to ensure “that greenhouse gas emissions are minimised to the greatest extent practicable.”

Section 14 (2) makes it clear that an assessment of greenhouse gases, including downstream emissions, is a matter for the IPC to consider for determination and that it “must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.”

Carbon dioxide

Santos argues that the CO₂ content of produced gas is far lower than the CO₂ content of the gas underground because of different desorption rates. It appears that the information they claim backs up this contention is still not being made available. This places the IPC in the position of having to accept Santos’ assurances that the gas they bring to the surface has lower carbon dioxide content than the gas that has been observed and measured underground. Since this issue will markedly affect the greenhouse impact of this project, the IPC must be able to satisfy itself on this issue.

Insurance

Santos narrows this issue to public liability cover for landholders who actually host Santos’ infrastructure. Most of the submitters who discussed insurance gaps were chiefly concerned about uninsured environmental harms in the public forest and affecting downstream water users.

Of the Chief Scientist’s recommendation about this issue, the Department’s response says “All three layers will be in place for the Narrabri Gas Project, and supplemented by the recommended conditions and other statutory protections.” There is nothing in the conditions that would require Santos to hold environmental insurance, nor is their provision for the company to put money raised from the project into a long-term environmental rehabilitation fund.

Since the public hearing, we have received more correspondence from landholders in the North West who have been discussing this issue with insurance brokers. These landholders will make detailed submissions on this issue, but advice from a wide range of farm insurance brokers indicates that farm insurance will not cover environmental impairment as a result coal seam gas and may in fact expressly exclude this.

Salt waste

Santos mischaracterises submissions on this issue. The problem is not that the Waste Classification Guidelines “do not apply” to salt, but that for solid waste that becomes liquid upon contact with water, application of those guidelines without further specifications and constraints creates the risk of serious and irreversible environmental harm, in the form of groundwater leaching. The company mentions mitigation measures available to landfill facilities to guard against this leaching, but still fails to do what has been asked of them for many years: specify that there is a landfill facility with these features that is capable and willing to accept this waste.

The Department's response to the IPC's questions on this issue is cut off just as it begins to actually describe the situation in Queensland. We are told that there is brine being "stored" in the gasfields, and that beneficial use is not occurring. This situation, years after production began, serves as a clear warning to the IPC against deferring decisive consideration of this issue until after a consent is granted. Nothing in the material provided by Santos or the Department resolves the clear advice provided by Professor Stuart Khan that leaching will be inevitable if solid salt is disposed of in landfill, and that there are reasonable questions about the feasibility and practicality of large-scale beneficial use of this salt. We reiterate our previous remarks on this issue, in our previous two submissions, highlighting the imprecision of the proposed conditions of consent for this issue, and the unacceptability that such a fundamental environmental risk from the project be left unresolved.

Water

In section 9.1 of its final submission, Santos presents information on "average volume traded" in various water sources since 2017 without specifying the type of trading. The NSW water market allows for temporary and permanent trades. To account for water take over several centuries, Santos would need to purchase not an annual water allocation but a Water Access Licence. The IPC should follow up seeking information about permanent transfer trading in each of the affected water sources. The Department correctly identifies in its answers to the IPC's questions that new water sharing plans have come into force this year for the Namoi alluvium and NSW GAB groundwater. What they do not mention is that in the new plan, the GAB Southern recharge is now over-allocated by 1,500ML a year. No information is provided by the Department about the availability of permanent transfers of licences or allocations in that water source.

Santos' assurance that impacts of the project on Gunnedah Oxley Basin water users "can be adequately managed through monitoring and adaptive management as prescribed in the recommended conditions of consent which allow for early detection of drawdown effects in the Gunnedah Basin" are not credible given the on the record advice from DPIE Water that Santos' proposed groundwater monitoring network in the GOB is not adequate to achieve this. DPIE Water has been trying to get Santos to agree to its proposed groundwater monitoring configuration for two years but this disagreement is unresolved. The construction of the conditions, then, leaves a great deal of uncertainty about the ability of the "adaptive management framework" to detect, prevent and ameliorate impacts on water users in this source. This is especially the case because the consent allows the Department of Planning to override the concurrence and advice role given to DPIE Water in the conditions that deal with the groundwater management plan and water monitoring network. As we have previously observed, proposed condition A23 gives the planning secretary power to cut out other agencies and parties that would otherwise have involvement in management plans.

Since the Department and Santos rely so heavily on the efficacy of the adaptive management approach to groundwater, it is crucial that the IPC engage with the draft conditions of consent and consider whether they really do what the company and the Department claim. As highlighted in our previous submission, several conditions and details requested by DPIE Water were not included by the department in the proposed conditions of consent. These are:

- That the conditions clearly articulate that the work programs for baseline data acquisition and modelling work must be defined prior to the start of Phase 1 (exploration drilling and appraisal).
- That consent conditions should include direct reference to a groundwater modelling plan which is approved prior to the start of Phase 1 and which clearly describes the timing for data acquisition which will be used in the modelling work.

- That a trigger action response plan includes tiered triggers linked to monitoring sites with increasing levels of risk management based on the water source. This recommendation referred back to previous advice about trigger action and response plans which we raised in our previous submission and in the questions we submitted to the IPC but have so far not been discussed at the public hearing or the meetings the IPC has conducted with the proponent, Department and the agencies.
- That Programs for the implementation of the Surface Management Plan and the Groundwater Management Plan are ***in place prior to the start of Phase 1*** to enable ***“the collection of comprehensive baseline data prior to the production phase.”***
- ***That there be “at least three years of monitoring data collected prior to Phase 2” and Santos should be required to establish the programs some years ahead of the transition to Phase 2.***
- That the consent conditions require Santos to obtain water entitlements at least ***one year prior to the commencement of the relevant stage.***
- An additional condition on the metering of any take so that Santos is compliant with the *NSW Non-Urban Water Metering Policy and the Water Management (General) Regulation 2018* and subsequent amendments.

Richard Lancaster’s opinion indicated that opponents of this project have not engaged with the adaptive management arrangements proposed by Santos and the Department. We have repeatedly attempted to do this but our questions and submissions have not been taken up by the IPC and we are otherwise helpless to ensure this is examined in depth.

On the upgrade of the model, another key element of the adaptive management approach, it is useful for the IPC to have Santos’ clarification that upgrading the groundwater model to Class 2 or 3 confidence “may, at best, take decades to achieve.” This explains the draft consent condition that requires such an upgrade to be only undertaken *if* reasonable and feasible and *when* reasonable and feasible. This position from Santos is difficult to reconcile with DPIE Water’s repeated requests that this upgrade be done prior to proceeding to full production. It was, after all, a condition imposed on the last round of exploration activity for which Santos was granted development consent, most of which did not proceed. Is Santos implying that the DPIE Water technical staff don’t understand what data are necessary and the impossibility of acquiring this data within a reasonable timeframe before production? The argument being made by Santos is that the impact must be inflicted before it can be understood, so it is very clear that, since there is a threat of serious environmental harm, it is not consistent with the precautionary principle.

Santos acknowledges that GISERA’s groundwater modelling uncertainty analysis generated a range of water production volumes between 4.4 gigalitres and 107 gigalitres. This range is an indication of the uncertainties involved. At the higher end of water removal, CSIRO estimated 2,299ML per year peak induced flux from the Pilliga Sandstone. Santos claims that two key parameters informed this higher rate of estimated take: greater proportion of exploitation of the Hoskissons seam than they intend, and greater take of water extraction than the conditions of consent allow. Our concern is that conditions of consent can be and frequently are changed by and for mining companies when they discover that they are not able to meet them. This has occurred recently as two examples illustrate:

- Maules Creek coal mine Condition 12a of Schedule 3 stipulated that the Sound Power Levels (SWLs) of fixed and mobile machinery at the mine must be “equal to, or better than, the indicative SWLs adopted for modelling purposes in the Maules Creek Coal Project

Environmental Assessment.” The company repeatedly failed to meet this condition and in response to enforcement action by the Department, applied to modify the consent to remove the condition. This application was withdrawn after community outcry.

- The Preliminary Works for Russell Vale coal mine was granted consent in October 2011 with a condition requiring the company to realign Bellambi Creek to prevent pollution. The deadline for this condition was subsequently modified and for more than five years there were repeated pollution events. The EPA fined the company in July 2016 for discharging 70 tonnes of coal fines into Bellambi Gully. In October 2016, the Department of Planning fined the company for failing to undertake the works and issued an order that it be done. In March 2018, an Environmental Impact Statement was exhibited for a modification to remove the condition requiring the realignment of Bellambi Creek and replace it with alternative mitigation measures. This application is still under consideration.

Regarding the Namoi alluvium and the discrepancy in the volume of flux assumed from the GAB recharge to the Namoi alluvium between the government’s model and Santos’ model, the company describes the difference between the two as insignificant. This was not the view of the Water Expert Panel and prompts the question: why then, has Santos not used the alternative parameter, and why do the conditions of consent specify that the parameter from Santos’ model will be used in the model upgrade, not the government’s?

Santos claims that “in Queensland, no regulatory enforcement action has been required in a period where up to 8,000 CSG wells have been operating and all spills greater than 5m³ in volume must be reported to the regulator.” This contradicts Santos’ own 2015 Sustainability Report which acknowledged two fines for the release of produced water to land at the company’s Queensland CSG operations. We also note Santos’ Annual Report 2019 cites a penalty infringement notice and \$12,615 fine received in March 2019 from the Queensland Department of Environment and Science for a loss of pond hydraulic integrity incident, and a penalty infringement notice and \$13,055 fine in September 2019 from the Queensland Department of Environment and Science for produced water release to a watercourse.

Biodiversity

Santos’ response barely engages with the serious material raised about the irreversible harm to biodiversity that will be inflicted by this gasfield and the gaps in knowledge and analysis in the assessment of that harm. Santos’ assertion that “The Biodiversity Offset Strategy included in the NGP EIS is consistent with the Framework for Biodiversity Assessment and NSW Biodiversity Offsets Policy for Major Projects” directly contradicts government “Advice on MNES” provided to the IPC which states that “Currently, the BOS is not compliant with the NSW Biodiversity Offsets Policy for Major Projects.”

The assertion that “Assessment of the significance of impacts was undertaken for each threatened species” is patently untrue, since the NSW framework does not currently require this. In response to complaints that the survey effort was inadequate for some species, Santos merely reiterates its aggregate survey effort, providing no specific information about the species concerned. The material submitted to the IPC by David Milledge and David Paull about the threat the gasfield poses to species and ecosystems is sufficiently grave and specific to warrant a broader consideration than the narrow guidelines of the Framework for Biodiversity Assessment which allows proponents to get away with not conducting surveys or considering the specific impact of their activities on many threatened and other native species by using vegetation communities as proxies for species presence and impact assessment. It is clear that this approach has failed to accurately and

adequately describe and measure the scale and severity of the impact of this gasfield on biodiversity in the Pilliga forest. A broader consideration is open to the IPC given that conservation of biological diversity is among the principles of ecologically sustainable development and we urge the Commission to refuse consent and prevent these unacceptable impacts.

Bushfire risk

Santos claims that its application of an FDI rating of 120 (catastrophic) means it has accounted for the impact of climate change. But there is no engagement with the relative frequency of this danger rating over the 25 year life of the gasfield as a result of climate change. The EIS risk assessment upon which Santos' assurances about bushfire risk is based applied standard ambient atmospheric temperature of 25 degrees C and average humidity based on the 2008-12 average. This is clearly not going to give an accurate picture of bushfire risk as average and higher end temperatures increase.

Arriscar's review of the EIS's Hazard assessment stated that "The likelihood of a bushfire being caused by the development has been estimated at 1/70 years. This is not insignificant relative to the background risk (c. 1/10 years)." In answer to this response, Santos clarified that this likelihood related to the creation of a fire of any size, not an uncontained bushfire. The final submission now claims that "ignition scenario impacting beyond the site boundary, the cumulative likelihood would be considered in the order of 1 in 2,600 years which is considered improbable." There is no explanation for how Santos arrived at this figure.

Social impacts and "social licence"

Santos' final response does not engage at all with the deficiencies of its social impact assessment and social impact management plan as outlined by Dr Alison Ziller. The Lancaster advice makes remarks about the concept of "social licence" inspired by the number of local and regional people that used this term to articulate the sentiment in their communities about the gasfield. Nobody has anywhere argued that a "social licence" is a statutory concept, but it is a concept frequently used by the mining industry as short-hand for a cluster of social issues around social acceptability and conflict. Richard Lancaster SC has linked the phrase to "the public interest" remarking that if the two terms are related "the only safe course is to abandon any gloss on that statutory provision and instead apply the words of the statute. In that regard, the consideration of the 'public interest' operates at a 'high level of generality' and does not require the consent authority to have regard to any particular aspect of the public interest." But social licence is not synonymous with the public interest. There may be some overlap, but the two concepts may also depart from each other: a mining project that is generally harmful to the public interest may enjoy social licence.

There is a considerable body of work on the subject of social licence. An alternative phrase, if the word "licence" is misleading to Lancaster, is "social acceptability:" does the project enjoy support in the local and broader community, or does it create social conflict and division? It must be clear to the IPC that the Narrabri gas project is causing social conflict and division in Narrabri. We do not argue that *any* local opposition to a resource project translates necessarily into a lack of social licence. There are myriad factors that contribute to the situation: the demographics of the workforce and its degree of intersection with the community, the degree of equity (or not) in the distribution of benefits and the distribution of harms. Crucially, the quality of the response from both the proponent and the Department to the concerns of objectors plays an important role. These issues have been raised repeatedly by us, by the members of the North West Alliance and by Dr Alison Ziller and for as long as they continue to be ignored, the Narrabri gas project will continue to fail to achieve "social licence."