

MEETING MINUTES



MINUTES OF: Arrow Surat Community Reference Group (ASCRG)
 HELD AT: BMO Business Centre, Dalby
 DATE: Thursday, 14 March 2019
 COMMENCEMENT TIME: 9.40 am

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| Present: | <p>Jane Walker – GasFields Commission John Hughes – Department of Natural Resources Mines and Energy Cr Nancy Sommerfield – Toowoomba Regional Council Scott Braund – Lot Feeders Association Ian Hayllor – Chair of Resource Sector Interactions, AgForce Rohan May – President, Dalby Chamber of Commerce & Industry</p> <p>Proxies: Talia Parsons (Community Activation Coordinator, WDRC) for Paul McVeigh</p> <p>Presenters: Leisa Elder – VP External Relations & Tenure Management, Arrow Energy Mary O’Brien – Agricultural Consultant, Are You Boggled Mate program Stewart Black – Operations Manager, Surat, Arrow Energy Chris Wicks – Development Planner IFL, Arrow Energy Suzanne Ferguson – Manager Tenements and Overlapping Tenure, Arrow Energy Liz Edwards – Community & Communications Manager, Arrow Energy Stephen Denner – Hydrogeology Team Lead, Arrow Energy Ben Prain – Safety Manager, Arrow Energy David Wigginton – Produced Water Manager, Arrow Energy</p> |
| Apologies: | <p>Simon Gossmann – Groundwater Manager, Arrow Energy Lee McNicholl – Basin Sustainability Association Graham Clapham – Central Downs Irrigators Ann Leahy MP – Member for Warrego Pat Weir MP – Member for Condamine Colin Boyce MP – Member for Callide Mayor Paul McVeigh – Western Downs Regional Council Matthew Paull – APPEA</p> |
| Chair: | Leisa Elder – VP External Relations & Tenure Management, Arrow Energy |
| Secretariat: | Rita Hassan – Senior Community Officer (Dalby), Arrow Energy |
| Disclosures: | None recorded |

| | Joint Meeting – ASCRG & AIFL Committee | ACTION/ SUGGESTIONS |
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| ITEM 1 | <p>Welcome</p> <ul style="list-style-type: none"> Leisa Elder welcomed everyone, acknowledged apologies and thanked Talia Parsons (WDRC) for attending as proxy for Mayor Paul McVeigh. | |
| ITEM 2 | <p>Are You Boggled Mate – Mary O’Brien</p> <ul style="list-style-type: none"> Mary shared information on the Are You Boggled Mate initiative to raise awareness and start a conversation about depression and mental health resilience. The program uses the analogy of bogged machinery which resonates with farmers: sometimes we can get ourselves out of a bog, other times we can’t do it alone and need help. Mary rubs shoulders with men from the land who are interested in having conversations about suicide prevention given the high numbers of rural men who fall victim. | |

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| | <ul style="list-style-type: none"> • Arrow’s sponsorship assisted the program to provide outreach engagements at subsidised rate. • Interest in the program has been unprecedented with enquires and contact nationally and internationally. • Next step is to get the message to the partners/wives of regional men to help them recognise the signs of depression and mental health issues. • Lifeline’s website has a list of indicators to help individuals identify depression in a friend or loved one. Lifeline also provides “Assist” suicide prevention training. | |
| ITEM 3 | <p>Arrow update – Leisa Elder</p> <ul style="list-style-type: none"> • Leisa Elder spoke about the State Government approval of Arrow’s Petroleum Leases which was widely reported in the media. • The announcement (28 February) related to the grant of 14 Petroleum Leases (PL) by the Queensland Government, providing Arrow with tenure security for the Surat Gas Project (SGP). • Leisa noted, in reference to the safety moment, that yesterday Arrow held a Dalby staff team day at the Western Downs event centre. Arrow engaged former chief of the Australian Army Lieutenant General David Morrison AO (Retd) who spoke to staff about developing resilience, having courage and the importance of community. • Ian Hayllor asked whether Arrow’s Land Access officers are otherwise trained in recognising mental health issues. Ben Prain outlined some of the options available for Arrow staff to develop resilience including staff support services from Gryphon Psychology. • Brydie Hedges advised that Arrow undertakes engagement training for all staff involved in community or landholder engagements which includes how to manage an emotional or escalating situation. • Ian Hayllor and Stewart Armitage both asked if Arrow could demonstrate what it is doing to ensure that mental health standards are covered in staff training. | <p>Arrow to consider any additional training for staff in areas of depression awareness and identification</p> |
| ITEM 4 | <p>Operations update – Stewart Black</p> <ul style="list-style-type: none"> • Arrow is progressing well with record gas production volumes. • Infrastructure is being utilised to its full capacity which keeps flaring and emissions to a minimum. <p><u>Daandine and Kogan North fields</u></p> <ul style="list-style-type: none"> • 21 wells have been drilled on intensively farmed land to demonstrate co-existence. • 17 of these wells are online and performing well, the remaining four are expected to be online in early April. • An additional six vertical wells are yet to be drilled and expected to be online May 2019. <p><u>Daandine CGPF</u></p> <ul style="list-style-type: none"> • Construction for the Roma to Brisbane Pipeline interconnection to Braemar 1 and 2 pipeline systems is complete. This project | |

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| | <p>improves our ability to send gas to different areas and opens up direct access to the pipeline system.</p> <ul style="list-style-type: none"> • Arrow is approaching a good time of year for servicing to take place. A full shutdown of Daandine CGPF is scheduled for mid-April. Community notifications will take place ahead of the shutdown due to planned flaring of gas. The field is ramped down to reduce volume of released gas. • Shutdowns allow Arrow to undertake work that cannot be done while the equipment is online. <p><u>Tipton field & CGPF</u></p> <ul style="list-style-type: none"> • Five new wells are undergoing a statement of fitness prior to going online. • Approximately 26 additional new wells will be drilled in 2019. • Site preparation for 10 new wells will begin towards the end of March. • Compressor maintenance will commence soon with a major shutdown scheduled in Q4. • Jane Walker asked if the 26 new wells planned for Tipton are on Arrow land or other landholder properties. Chris Wicks confirmed that they will be on existing private landholder properties with four wells on Arrow's Glenelg property. <p><u>Plainview Pilot</u></p> <ul style="list-style-type: none"> • The Plainview Pilot project is very close to completion with five new wells currently undergoing commissioning. • Two new groundwater monitoring bores are online (discussed in detail Item 7). • To support this activity, Arrow has installed 23 soil gas monitoring points in the area which has allowed for baseline data capture. On-going monitoring will continue to measure methane changes. <p><u>Meenawarra</u></p> <ul style="list-style-type: none"> • Four new vertical wells north of the existing Meenawarra pilot wells are now online. • Two additional wells have been drilled and are awaiting completion. | |
| ITEM 5 | <p>Surat Gas Project update – Chris Wicks</p> <ul style="list-style-type: none"> • Planning continues for the Surat Gas Project (SGP). <p><u>Kogan area development</u></p> <ul style="list-style-type: none"> • Area wide planning (AWP) has been completed with more than 20 landholders. <p><u>Lynwood to Jordan off-tenure pipeline</u></p> <ul style="list-style-type: none"> • The preliminary process of examining Lynwood-Jordan route possibilities has been completed. Landholder discussions have taken place through AWP. • AWP constraints, coupled with surveys and other local information will inform the Front End Engineering Design (FEED). <p><u>Brine dam at QGC's Kenya facility</u></p> <ul style="list-style-type: none"> • QGC's Kenya facility will be used for treatment of Arrow's water. | |

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| | <ul style="list-style-type: none"> • Planning has commenced with geotechnical, cultural heritage and ecology surveys complete. • Preliminary engineering and layout/design is underway. • Stuart Armitage asked if the pipeline would carry gas and water. Chris Wicks confirmed produced water is delivered to QGC’s ponds and then uses their network to Kenya Water Treatment Facility (WTF). Arrow will construct a pipeline to return water back to our tenure for beneficial use. • Stephen Williams asked if the pipeline around Nandi Road was still progressing. Chris Wicks advised that this is a proposed APA pipeline from Arrow’s Tipton facility and that the pipeline is currently on hold. Stephen expressed concern that engagement has occurred but no activity has followed. This leaves the future unknown for landholders. Chris advised that landholder discussions are undertaken as early as possible ahead of a project. Delays in investment decision and project commencement don’t mean that the project won’t happen. Ian Hayllor said that landholders appreciated the early engagement and prior notice. <p><u>Area Wide Planning</u></p> <ul style="list-style-type: none"> • Preparations are underway for 2019 AWP: <ul style="list-style-type: none"> ○ Duleen Kupunn area (Q2) ○ Broadwater Road area (Q2-3) • Arrow expects to contact landholders from April. • The Broadwater Road area has a community landholder group which has already held some informal meetings. • Engagement will start with targeted landholder shed meetings followed by one-on-one engagement with individual landholders. <p><u>Impact management</u></p> <ul style="list-style-type: none"> • A draft Traffic Impact Assessment for the first stage of SGP has been submitted to Western Downs Regional Council for consideration. • Traffic Impact Assessments for the remaining SGP areas are under development. <p><u>Local content</u></p> <ul style="list-style-type: none"> • An Australian Industry Participation Plan for the SGP (as required by the Federal Government) is currently under development. The plan outlines how Arrow proposes to support capacity building for local businesses, e.g. Arrow’s HSE requirements for contractors. | |
| ITEM 6 | <p>Regulatory approvals update – Suzanne Ferguson</p> <p><u>Surat Gas Project approvals update</u></p> <p>State:</p> <ul style="list-style-type: none"> • Sixteen petroleum lease (PL) applications were lodged, 14 in December 2017 and 2 in August 2018: <ul style="list-style-type: none"> ○ 14 were approved February 2019 ○ two remaining applications require agreements with overlapping tenure holders. • Five environmental authorities (EAs) grouped to cover the 16 | |

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| | <p>PLs were approved in 2018.</p> <ul style="list-style-type: none"> • Ten potential commercial area applications lodged in March 2018 are still being assessed. • Two petroleum pipeline licences (PPLs) off-tenure were lodged and approved in 2018. <p>Federal:</p> <ul style="list-style-type: none"> • Environmental Protection and Biodiversity Conservation Act (EPBC): <ul style="list-style-type: none"> ○ Three approvals required, two have been granted ○ Stage Two Water Monitoring and Management plan to be submitted. | |
| ITEM 10 – brought forward in the agenda as requested | <p>Beneficial use network – David Wigginton</p> <ul style="list-style-type: none"> • SGP involves using existing third party infrastructure which minimises the construction of major new facilities, reducing impacts to landholders and communities. • The project preserves Arrow’s commitment to bring water back to substitute the company’s impacts to the Condamine Alluvium (CA): <ol style="list-style-type: none"> 1. Maximise beneficial use of produced water 2. Where practical, return water to the region from which it is produced 3. Offset impact on the Condamine Alluvium in the area of greatest predicted Arrow drawdown. <p><u>Arrow’s impact on the Condamine Alluvium</u></p> <ul style="list-style-type: none"> • The long-term impact patterns on the Condamine Alluvium have been predicted and show total industry impact. • Arrow’s greatest area of impact is concentrated on the west side of the Condamine Alluvium, near the Daandine field. • Predicted Arrow drawdown across the Alluvium is minimal, typically <0.20m with a maximum drawdown of 0.5m. • Volumes of water extracted are broken into three areas: <ul style="list-style-type: none"> ○ Eastern IFL (overlying the CA) ~211GL ○ Central IFL ~59GL ○ Northern non-IFL ~68GL. • Extracted water volumes will vary as production forecast changes and have historically become smaller over time. <p><u>Beneficial use</u></p> <ul style="list-style-type: none"> • The amount of water to be provided for beneficial use is small compared to the total water use in the identified areas. • Arrow will not extract enough water to supply new users and extraction is not available long term. • The Northern non-IFL area has no suitable land use or existing large water users and is not included in the beneficial use network (BUN). • Treated water will be destined for the Central IFL area via the existing Sunwater pipeline, near Kenya – average volumes <13ML/day. • Arrow will construct a water network to distribute to the IFL, Condamine Alluvium users – average volumes <20ML/day. | |

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| | <p><u>BUN sub-committee</u></p> <ul style="list-style-type: none"> • Arrow plans to convene a reference group as a sub-committee to the ASCRG. • The committee will feed back into technical plans for the network, informing development of the substitution scheme, within known constraints. • Substitution plans will consider current Condamine Alluvium allocation holders including irrigators and Western Downs Regional Council. • Invitations to participate in the subcommittee will be extended to members of these groups. • Wayne Newton asked if the volumes substituted would allow for evaporation (i.e. some extracted water will evaporate through treatment and handling). David Wigginton confirmed that evaporation has been factored into the figures. • Wayne Newton asked if make good agreements would be part of the BUN. David Wigginton said this would not be the case since the BUN is not a permanent solution as it is limited to the time period over which water is produced. • The 63GL substitution target is Arrow’s predicted 100 year impact to the Condamine Alluvium aquifer. • Ian Hayllor said he would like to see a graph of peak decline and recovery overlaid with the effect of substitution on a timeline. • Stuart Armitage said he believed that Arrow had progressed well with the science around the Condamine Alluvium and that it was critical for the company to address the anticipated impacts since landholders have billions of dollars’ worth of investments in the region. Stuart believes landholders/businesses who have invested should be included in the decision-making around the BUN. • David Wigginton said the sub-committee will include water users who have allocations from the Condamine Alluvium impacted by Arrow. • Ian Hayllor questioned the efficiency of the scheme i.e. directly impacted landholders didn’t necessarily benefit, but the aquifer benefits. • David Wigginton said continual updates to the Underground Water Impact Report (UWIR) model would inform forecasts for the substitution target. • Leisa Elder said the return of water to Condamine Alluvium users has been the one non-negotiable item in the 2 year process for a Surat Gas Sales Agreement. Arrow protected this commitment even though it was not the best economic solution. It is a commitment to the community to offset Arrow’s development impacts. • Leisa Elder confirmed, with the committee’s support by show of hands to establish a sub-committee to address the BUN development plans. Brydie Hedges will draft terms of reference and forward invitations to stakeholders for participation in the BUN sub-committee. | <p>David Wigginton to generate timeline graph showing peak decline and recovery of Arrow impact to Condamine Alluvium</p> <p>Brydie Hedges to forward invitations for BUN sub-committee</p> |
| ITEM 7 | <p>Groundwater Monitoring update – Stephen Denner</p> <p><u>Hopeland groundwater monitoring</u></p> | |

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| | <ul style="list-style-type: none"> • Arrow will install up to 14 groundwater monitoring bores in the Hopeland area in stages. Plans are to install eight bores in 2019. • The bores are required as part of Arrow’s Environmental Approval, issued by Department of Environment and Science (DES) in August 2018. • The Environmental Approval allows Arrow to collect gas from an existing six-well pilot in the Hopeland area and bring it to market instead of flaring the gas. • Information from the monitoring will be provided to the Queensland Government, Office of Groundwater Impact Assessment (OGIA) and DES. • The data will contribute to a broader understanding of the groundwater system in the region. <p><u>RIDA application – Wyalla (Suzanne Ferguson)</u></p> <ul style="list-style-type: none"> • Arrow submitted a Regional Interests Development Approval (RIDA) application under the Regional Planning Interests Act for activities on Wyalla. • This property is not classified as Priority Agricultural Land Use (PALU). • Arrow plans to drill two groundwater monitoring bores on the property in Q3 2019 under the PL253 Environmental Authority. <p><u>Plainview interconnectivity study</u></p> <ul style="list-style-type: none"> • Arrow is conducting an interconnectivity study east of the Tipton field, similar to previous studies undertaken. • Two shallow groundwater monitoring bores were drilled and installed mid-January 2019 on the existing Plainview pilot pad location. • Ongoing monitoring will take place to collect data from the two bores located in: <ul style="list-style-type: none"> ○ Springbok sandstone (100m deep) ○ Condamine Alluvium bore (22.5m deep). • Stephen Denner said the Condamine Alluvium is thicker near the river and thins out towards Grassdale feedlot. • Core samples collected during the drilling are being examined for clay content by Department of Natural Resources Mines and Energy (DNRME). • The lower Condamine Alluvium contains very coarse sand and gravel, whereas the Springbok Sandstone is finger grained in nature. | |
| ITEM 8 | <p>Arrow Safe Driver application – Ben Prain</p> <ul style="list-style-type: none"> • Arrow has a very strong safety focus and is exposed to significant interaction with the community through our operations especially on the roads. • Arrow has identified technical solutions to address issues that have been identified as impacting road safety. • Three specific areas of concern: <ul style="list-style-type: none"> ○ speeding breach hot spots ○ limited geo-fences ○ serious vehicle incidents caused by not driving to conditions. • Solutions to address these concerns through technical innovation include: | |

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| | <ul style="list-style-type: none"> ○ voice alerts e.g. for decreasing speed zone changes, upcoming hazards ○ base map verification and hot spot identification. • Identifying upcoming hazards and changes to conditions have been recorded as issues that most often lead to breaches or incidents. • The In-Vehicle Monitoring System (IVMS) is seen as policing. IVMS will remain as a compliance monitoring tool. • The new app, which can be downloaded onto a smart phone, has been designed to give advice to drivers around road conditions. The app will: <ul style="list-style-type: none"> ○ identify land access conditions ○ include emergency escort locations ○ uses smart data to give drivers information at the right time depending on speed ○ include biosecurity zones ○ route drivers to sign-in points on private properties prior to site entry. • The app was trialed in 27 vehicles. Zero speeding events were recorded. • Arrow will roll out the app to all vehicles in the Surat. The company is also working with major transport contractor Toll to adopt the app. • In addition, Arrow has introduced a new fleet of Toyota, Hilux (5 star ANCAP-rated) via competitive tender. • Ian Hayllor said that the system showed a real commitment to safety and Land Access compliance by incorporating biosecurity and no go zones. | |
| ITEM 9 | <p>Arrow’s Social Investment - Liz Edwards</p> <p><u>Arrow Energy Agricultural scholarships</u></p> <ul style="list-style-type: none"> • Arrow is supporting the next generation of farmers through its support of Dalby State High School (DSHS) students with Agricultural scholarships in 2019. • 10 scholarships have been awarded for DSHS Bunya Campus students across years 7-12 by contributing to boarding fees. • This is the eighth year that Arrow has supported the Agricultural scholarships program. <p><u>Heart of Australia</u></p> <ul style="list-style-type: none"> • On 18 February, Heart of Australia (HoA) held a clinic in Dalby for Arrow landholders, stakeholders and staff, at Arrow’s request. • Arrow was also proud to be a part of the Heart 3 launch, a third mobile clinic service which will include routes into north Queensland. • Arrow remains the foundation partner and increased its investment in 2018 and 2019. • HoA now have 49 partners on board which represent the largest collective impact organisation in Australia. • Arrow views its involvement in the program as a legacy that will remain long after the project is complete. • Stuart Armitage thanked Arrow for making the HoA service available for landholders and stakeholders. Stuart said he can vouch from experience on the value this service provides to the community. • Stewart Hayllor has struggled to get a referral to the service from his doctor, Leisa encouraged him to seek another opinion. Rolf Gomes (founder of HoA and cardiologist) refers to two major | |

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| | <p>trapdoors that can impact a person’s health - cancer and heart disease. An appointment with HoA can eliminate one of those.</p> <p><u>AFL SportsReady traineeships</u></p> <ul style="list-style-type: none"> • 18 March was the official launch of the 2019 traineeship program in the Western Downs region. • The partnership has delivered employment and training opportunities to 10 young people since it began in 2015. <p><u>Chinchilla Melon Festival</u></p> <ul style="list-style-type: none"> • 2019 saw record visitor attendance to the Chinchilla Melon Festival. • Arrow was involved through sponsorship of children’s entertainment, roving street performers and Community engagement staff hosted a “chill out” tent. <p><u>Beyond the Broncos</u></p> <ul style="list-style-type: none"> • 13 February was the official launch of the Broncos Indigenous Girls Academy at Oakey State High School. • The partnership has seen more than 200 Indigenous year 7-12 students across the Surat Basin benefit from the program to date. • The program focuses on health, employment and education mentoring for the students involved. <p><u>Big Skies 2019</u></p> <ul style="list-style-type: none"> • Arrow is festival partner for Big Skies in 2019 (second year running) 26 April-5 May. • The event includes the signature “Day on the Plain” rock concert at Jimbour house, Saturday 4 May. <p><u>PCYC Dalby Braking The Cycle</u></p> <ul style="list-style-type: none"> • An event on 3 April will celebrate more than 150 licences achieved through the partnership program through a program using volunteer drivers to support disadvantaged youth. <p><u>Endeavour School Holiday Program</u></p> <ul style="list-style-type: none"> • Arrow is supporting 10 local children with diagnosed special needs to attend the school holiday activity program in Dalby over the April school holiday break. <p><u>PCYC Healthy Bodies, Healthy Minds program</u></p> <ul style="list-style-type: none"> • Arrow is sponsoring the expansion of the Healy Bodies, Healthy Minds Program into the Dalby region through PCYC, commencing 6 May. | |
| ITEM 11 | <p>Minutes of previous meeting & actions</p> <ul style="list-style-type: none"> • Minutes distributed for comment/feedback. • Endorsed for publication on website. | |
| ITEM 12 | <p>Any other business</p> <ul style="list-style-type: none"> • Stewart Armitage would like to know if it is possible for landholders to get access to gas on their properties for power generation. Stewart Black said that there are gas process safety issues with this suggestion. Arrow currently powers the wells in this way, however, generators used are costly and require on-going maintenance. Arrow noted it was likely not possible. | <p>Stewart Black to query business about providing gas to landholders</p> |

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| | <p>Stewart took the suggestion on notice for further consideration.</p> <ul style="list-style-type: none"> Wayne Newton raised the issue of possible telecommunication disruption from illegal repeaters. Action for Arrow to ensure rig telecommunication systems are not interfering with local landholders. | for power generation and rig telecommunications |
| ITEM 13 | <p>Agreed outcomes, actions, deliverables</p> <ul style="list-style-type: none"> Arrow to consider any additional training for Land Access and other front line staff in depression awareness and identification. David Wigginton to generate timeline graph showing peak decline/recovery of Arrow impact to Condamine Alluvium. Brydie Hedges to forward invitations for BUN sub-committee. Stewart Black to discuss any potential (though unlikely) to provide gas to individual landholders for power generation. Stewart Black to query business around rig telecommunications. | |
| | Next meeting – June 6, Toowoomba | |

There being no further business, the meeting was closed at 11.55am.