

## Media Release

### **AGL to monitor proposed hydraulic fracturing program with state-of-the-art equipment**

**24 January 2014**

For the first time in NSW, AGL Energy Limited (AGL) will utilise state-of-the-art geophone monitoring technology to conduct real time monitoring of the proposed hydraulic fracturing program, as part of the Waukivory Pilot that is planned for Gloucester, NSW.

The geophone monitoring equipment that has also been used successfully in Queensland and South Australia, will be installed in a hole adjacent to a well which will be fracture stimulated, tracking the direction, height and length of the fracture stimulation in the target coal seam.

Fracture stimulation experts will be viewing the data in real time along with other diagnostic techniques, during the planned fracturing activities and adjusting the pressure if required.

AGL's Head of Field Development, Mike Roy, said that using geophone monitoring was part of AGL's commitment to protecting the environment.

"The advanced technologies that are now available allow us to see underground what we can't see with our own eyes. The geophone monitoring provides another level of understanding about what is happening in the subsurface during hydraulic fracturing.

"The real time data will help validate the geo-mechanical and fracture stimulation modelling, and allow AGL to react immediately if any irregularities are displayed.

"Fracture stimulation requirements vary with the natural permeability of the rock, and it is estimated that the fracture stimulation will penetrate around 40 metres into the coal seam from the well bore. The use of the geophone monitoring will confirm this as well as any vertical height growth," he said.

This geophone is one of numerous techniques that will be used to better understand the Gloucester geology throughout the proposed fracture stimulation program. This will be complemented by other diagnostic techniques including real time pressure monitoring<sup>i</sup>, temperature logging<sup>ii</sup> and pressure confirmation<sup>iii</sup>.

AGL has safely fracture stimulated 126 wells in NSW. The monitoring for the proposed Waukivory Pilot will be further supported by industry best practice in coal seam gas well construction. This includes four barriers (two steel and two pressure-tested cement) between the well and surrounding aquifers which complies with NSW regulations and Codes of Practice.

In 2013, AGL submitted one of the most detailed assessments of fracture stimulation ever conducted in NSW for the proposed Waukivory Pilot. The application, which is currently being assessed by the NSW Office of Coal Seam Gas, includes detailed studies on the effect of fracture stimulation on water, the community, ecology and human health and concludes that the impacts are negligible or low providing strict standards are met.



### **Further inquiries:**

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### **About AGL**

AGL is one of Australia's leading integrated renewable energy companies and is taking action toward creating a sustainable energy future for our investors, communities and customers. Drawing on over 175 years of experience, AGL operates retail and merchant energy businesses, power generation assets and an upstream gas portfolio. AGL has one of Australia's largest retail energy and dual fuel customer bases. AGL has a diverse power generation portfolio including base, peaking and intermediate generation plants, spread across traditional thermal generation as well as renewable sources including hydro, wind, landfill gas and biomass. AGL is Australia's largest private owner and operator of renewable energy assets and is looking to further expand this position by exploring a suite of low emission and renewable energy generation development opportunities.

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<sup>i</sup> Real time pressure monitoring - during the fracture stimulation activity, pressures will be constantly monitored to study general fracture growth and geometry (height, length, width)

<sup>ii</sup> Temperature logging - after fracture stimulating each zone a temperature log will be run to confirm the height of the fracture at the well bore

<sup>iii</sup> Pressure confirmation - pressure will be checked to confirm it remains in the target zone.