**Note of the meeting held by Tinker Lane CLG at Louth Village Hall on Thursday 7th April at 7pm.**

In attendance: Christie Willis, Rob Boeuf, George Fridlington, Chick Fraser, Peter Thompson, Julia Kershaw, Maureen Holgate, Bev Fullwood, Rhonda Miller, Gordon Grant, Kris Bone.

Apologies were received from Liz Yates, Bob Kendall, Tony Roberts, Michelle Field.

1. **Minute of Last Meeting**

The minute was approved.

1. **Matters Arising**

Open Sessions

The open sessions have been changed from Sutton to Barnby Moor. The cost will be £35 and it was agreed that this would be paid by the Parish Councils.

Sutton PC want a second meeting in Sutton. This will be held on the 4 June in Sutton Village Hall.

It was agreed that Rob and Christie would design a flyer advertising the events and once agreed would send out via e-mail and let the Parishes print off the required amount.

Post meeting note: Christie has obtained a very good deal on printing locally and so the flyers will now be printed and then distributed to the parishes.

Christie confirmed that she would be there all day, along with Rob. Gordon agreed to ask UKOOG to send a representative. Gordon agreed that IGas would attend. Rob agreed to ask Brian Davey or Greg Hewitt to attend as representatives of the anti-fracking groups. It was also agreed to ask Misson Community Action Group.

Christie pointed out that the CLG need to remain neutral at the event.

It was agreed to invite local councillors and planning officers to come along.

At this point Kris Bone, Asset Manager for Tinker Lane arrived and so business was stopped in order for him to give his presentation. He introduced himself saying that as well as Asset Manager for any developments with partner Engie (who are involved in Tinker Lane) he is also the Well Engineering Director for IGas. He pointed out that he lives in Cheshire, where IGas have several sites and so he understands both sides of the argument – locals and energy companies.

After giving a bit of background about IGas as a company, Kris went on to explain why there is a need for gas in the UK at this time. There is uncertainty around future energy security and a need for all types of energy to be considered at this time. He explained how much gas is used in our everyday lives (see slide.) He then went on to explain why shale gas is potentially important if it can be extracted.

He explained the geology of the area and talked about the shale level and why it needs to be fractured before it can flow.

He then went on to talk about the fiscal situation within the UK and Peter commented that he would very much like to hear more about this topic.

Kris then took the group through the relevant potential stages of a typical site, starting with site selection and moving through seismic acquisition, site preparation, drilling an exploration well with timescales attached (see presentation.)

Gordon raised the point that the CLG had been surprised that IGas would drill up to 10 wells on one well pad site and that they preferred not to do too many horizontals from one single vertical.

Kris explained that technically it is very difficult to do and much better to have one lateral from one horizontal. It is likely that there would be 5-10 well pads per site, on an average site size of around 2.2 hectares.

Rob pointed out that every time you drill a new well, you are drilling through the aquifer and so this compounds the risk of contamination. Working in this way would also mean longer time on site for the drill and more traffic.

Kris stated that whilst in an ideal world it may be preferable to have one wellhead with 10 laterals coming off it, but technically that is just not possible and does have risks of its own including wearing out the top-hole sections of the well. This is all looked at as part of the internal planning process.

Kris then went on to explain how this would look using his slides to clarify this. He also stated that in answer to the earlier question, engineering practices mean that the risk to the aquifer is very small.

Rob then asked about well testing and what pressure would be used. Kris explained that this is dependent on the design. Fracking will create the highest pressure possible in the well and the well will be designed and tested accordingly. Wells will frack at around 8000 psi and the well will be designed to take 12000 psi. This is all verified by Independent Well Examiners and HSE.

Bev then asked about the bend in the pipe – how do IGas ensure the bend in the pipe is strong enough to cope with bending. Kris explained that the bend is very shallow and happens over 100s of metres, ie 3 degrees every 100 feet. The wells are designed for tencile stresses and are all steel, cemented in place.

Peter asked how much of the frack fluid comes back and Kris explained typically 30 – 70% returns to the surface. Peter felt that the remaining water would be contaminated and will leak but Kris stated that the shale is impermeable and so it can’t flow back and other way than through the well. We monitor the well to ensure there are no leaks.

Kris explained that if IGas were to frack then it would typically be at 3500 metre and a typical fracture length is 150 – 300m, leaving a huge area of rock before getting to the surface which is impermeable.

Bev asked about faults – could this cause a flowback? It would depend whether it propagates to surface and this is why we carry out geological tests and 3d seismic testing.

Kris explained that IGas will monitor water, air and noise and if they decided to frack then they would need to have 12 months of baseline data from water monitoring boreholes. With regard to the monitoring is was clarified that this is continuous – 24 hours a day, 7 days a week.

Kris went on to explain that well construction is highly regulated in the UK and gave some detail on this. The operator has to do everything possible to ensure there is no unplanned escape of fluids. If there is an escape the company will be liable for prosecution. There are many different regulations that IGas will adhere to.

He explained how a well is drilled. Chick asked how IGas would know that the cement had reached where it was needed and Kris explained that the cement is pumped down the inside and then comes up the outside to surface. This ensures that the cement is everywhere it is needed.

He went on to speak about seismic acquisition. This is not relevant for Tinker Lane at present and costs between £5 and £10 million and would cover around 50-100 km2.

He explained that the reason that 3d seismic is required to be carried out prior to fracking is because of what happened with Cuadrilla at Preese Hall, where a fault was stimulated . The 3d seismic was a recommendation from the enquiry into this event.

Christie asked whether the local community would be asked what type of method is used to gather seismic data, bearing in mind that there is a fault under Torworth. Gordon explained that the seismic is used to identify such faults rather than stimulate them. Although you will feel a vibration at surface it will not affect a fault.

Christie then asked who would be responsible if there was damage to property? Bev said that Tesla, the company who carried out the acquisition had gone onto property without permission and had been very rude to the equestrian fraternity. Gordon explained that if there was a decision to carry out 3d seismic then there would be a large amount of consultation with the community before any work take place. Bev pointed out that people are much more informed now and more comfortable with what is happening.

Christie asked what would happen if the company was not allowed on certain areas of land. Gordon explained that you don’t need to have every area covered directly – you can still build up a full fold picture. Kris pointed out that seismic acquisition is a good thing because it gives you a clear picture of the geology of the area.

Kris went on to mention frack fluid and drinking water and showed data that explained how far a fracture will pervade. He explained about the content of frack fluid which is mainly water and sand with some chemicals which are non toxic. Everything that is used will be disclosed publically.

Kris then went on to talk about induced seismicity. He explained that whilst it is possible to create induced seismicity when fracking takes place, there are systems in place to ensure this is monitored and any work is stopped if there is any concern. He explained the traffic light system (see presentation.)

He also explained that there are natural seismic events occurring in the UK and Christie stated that the UK regulations were reassuring in that the levels on which work is stopped is much lower than in Canada. Kris explained that the UK is considered incredibly stable with regard to seismic activity.

There was then a discussion around well integrity and also damage to properties through seismic activity. Rob questioned how IGas could guarantee good practice when contractors were routinely used on sites. Kris explained that IGas would have a responsible person on site 24 hrs per day, so this was not an issue.

Julie asked what IGas would do if they did not find any gas and Kris explained that the well would be plugged and abandoned. He also clarified that they are not looking at any other sites at present.

Christie asked if the regulators are ‘taking your word for it’ that IGas are doing their job and how the work carried out and that manipulating data is not something the company would ever do.

Kris explained that the regulators and in particular the Environment Agency are very thorough and they will come out and check the conditions of permits. Their attention is focussed on the industry very much. IGas report weekly to the HSE, an independent well examiner sees all data and he feels it is likely that visits will become more frequent as the industry progresses.

Gordon agreed to send out the links to the various presentations given by the regulators recently.

There followed a discussion about Cuadrilla’s work at Preese Hall and the fact that the Environment Agency didn’t know about what had happened for some time.

Christie notified the group that Ineos had invited some Parish Council’s to attend a meeting in Chesterfield – they will attend. Gordon explained that Ineos had invited Parish Councillors from the areas in which they have been awarded licences and those where there are ongoing partnerships.

1. **Update on Planning Application**

Gordon informed the group that the finalised application is currently undergoing legal review and is likely to be submitted in April, subject to partner agreement.

1. **Future Speakers**

It was agreed to ask speakers to cover seismic, planning, geology, water and transport and drilling. Peter stated that he would like to hear from someone such as an economist and Gordon suggested that someone from UKOOG could cover this.

Gordon also reiterated the need for technical knowledge at this time. Chick suggested that Kris had covered the seismic aspect well. It was agreed that the next meeting would be attended by IGas planners and the following meeting would be attended by someone who could give a presentation on water and transport. A further meeting should focus on drilling.

**Any Other Business**

**Public Exhibition**

Gordon explained that the application will be validated once submitted and then a period of consultation will begin. IGas will hold a public exhibition during this period, probably in May.

Gordon said that representatives from Ineos and Engie had expressed an interest in attending a future meeting and asked the group for their views on this. They would be happy to meet representatives at any time and welcomed them along. It was agreed to invite them once the planning application has been submitted.

Christie informed the group that she has launched a Facebook page in the name of Tinker Lane Community Action Group. After much discussion it was agreed that the word ‘Action’ should be removed from the title as this made the group sound like activists rather than communicators.

**Visit to Doe Green**

The visit will take place on Monday 25th April at 9am. Rhonda will send out details nearer the time but a coach will be provided, as will lunch and refreshments.

1. **Date of Next Meeting**

The next meeting is scheduled for 7pm on Thursday 28th April at Lound Village Hall with IGas planners in attendance.