

Date Thursday 23rd October 2008 **Place** K1/0/85, Culham Science Centre

Time 09.30

To Prof. Steve Cowley (Chairman) UKAEA Cllr J Stimson - Long Wittenham Parish Council
Mr M Cox UKAEA Mr C Dupond - Clifton Hampden PC
Mr C A Carpenter UKAEA Mr W Hanks - Sutton Courtenay PC
Mr K Pagett UKAEA Mr R Holcombe - European School
Dr A Webster UKAEA Mr S Sharron – European School
Ms C Mrozek EFDA-JET Mr D Deleyser – Crystalox
Mr K Broughton – OCC Mr B Garrard - Crystalox
Cllr A Purse – OCC
Cllr D Turner - OCC

Apologies Mr T Crabbe – OCC Mr G Bartley - Culham PC
Ms O Garfoot - Nuneham Courtenay PC M Barents – NDA
Mr D Kingham – Innovation Centre Dr Phil Heaton – Environment Agency
Miss J Randle – SODC Mr S Edwards – CNC
Cllr L Symons - VWHDC N Henderson – LGC Forensics
Mr T Williams - VWHDC

MINUTES

Welcome – Prof Steve Cowley

Prof Steve Cowley welcomed everyone to the meeting before giving some background on himself. Prof Cowley then invited Cllr John Stimson to give an update report on the JSSG.

JSSG update – Cllr John Stimson

John Stimson welcomed the opportunity to give an update on behalf of the JSSG and commented on the importance of the close local liaison.

For those who had not attended before Cllr John Stimson explained that this JSSG meeting would be a mini meeting within the CLLC. The minutes from the last JSSG meeting were circulated to those in attendance, and were accepted as a true record.

Cllr Stimson commented that just before the April meeting he had received a letter from Mr Griffen at the NDA, asking for comments. Cllr Stimson will reply in due course. At the April 2008 JSSG meeting the six voting members present voted unanimously not to continue the JSSG as an independent body. A letter confirming this decision will be sent to the NDA.

An offer of £200 had been made by Oxfordshire County Council to help fund the meetings with the provision that it's matched by SODC and VWHDC. The outcome was unclear as SODC were not represented at the meetings.

The four members present all agreed that the JSSG should continue and future meetings included under the CLLC agenda.

Cllr David Turner commented that now that SODC and VWHDC had joint administration, it will save about £1M across the two Councils. Cllr Turner commented that it would seem timely for him to take up the request for support from SODC with the Chief Executive. The next NDA meeting is scheduled for the 4th December. Prior to the meetings, all Chairs and Vice Chairs of independent stakeholder groups meet separately from the NDA. The support of this group for the continuation of the JSSG should be sought.

William Hanks, Chris Dupond all agreed with this suggestion, and David confirmed that he will write to Richard Griffen to this effect.

Prof Steve Cowley confirmed that these suggestions were in line with his thoughts, and confirmed the importance of having an external body on this issue. He also thanks Cllr Stimson for spending time and his energy on this. As things change dynamically on site, the NDA will want to know more about the future of the Culham. He is glad that a decision has been made to continue the JSSG.

Chris Carpenter, suggested that JSSG voting members write a Terms of Reference for their group as it is likely that David Buckle, as Chief Executive of SODC and VWHDC, will want to see them.

ACTION: Cllr Stimson to produce a terms of reference for the JSSG.

Cllr Stimson then handed back the meeting to Prof Cowley.

Minutes of last meeting

The minutes from the last CLLC meeting were accepted, and to close the outstanding action a copy of the sundome report was circulated.

General developments – Steve Cowley

Prof Cowley gave an update on general developments on site. Currently there are two machines, MAST and JET. In 1997 JET produced 16MW of fusion power and, until ITER is built, JET remains the only machine in the world which can produce fusion power. Thus, while JET continues to operate Culham remains the most important fusion laboratory in the world. MAST is an innovative device, called a spherical tokamak, a concept which has been developed at Culham. The spherical tokamak utilises the magnetic fields better and may therefore make a cheaper reactor. The science and technology programme at Culham is leading fusion research. On Culham site there are currently over 250 engineers and over 100 physicists, theoretical and modelling staff who support the site and scope of work undertaken.

Europe has now entered a new phase with the construction of ITER. ITER is being built in Cadarache in the south of France, near Aix en Provence. The first construction contracts have been awarded. It is not likely to be finished until after 2018 with 2020 suggested as the date for the first plasma. Europe has decided to review its whole fusion portfolio, and a review took place this year. The report on the fusion facilities review is now available. The report examines the facilities that are needed in Europe and the expected lifetime of these facilities. It also prioritised fusion machines for their importance for ITER and for the eventual achievement of fusion energy. Culham did exceedingly well in this facilities review and JET was said to be the most important machine in the world until ITER.

Enhancement Project 2 (EP2) will finish sometime late in 2010 and will give JET a new lease of life. We are installing a new JET wall. It is a mock-up of the ITER wall. It is a phenomenal engineering feat there are 18,000 separate parts and separate assemblies. The enhancements will be installed using the remote handling facilities. It seems likely that JET will continue until the late teens, but it is unlikely to continue after the beginning of ITER.

MAST also did well in the facilities review and was rated third (second was ASDEX upgrade at IPP Garching, Germany). It was recognised that MAST (as a spherical tokamak) can explore certain aspects that even ITER cannot explore. We have realised that MAST is a possible prototype for a Component Test Facility (CTF). The current programme on MAST aims to show that such a facility could be built for a modest cost. One component of our future programme is to position Culham and the UK to develop the CTF. With such a programme Culham would thrive beyond the end of JET.

The second part of our long term vision is to exploit the expertise of our engineers and scientists to develop the technology of future fusion reactors. It is not foreseen that fusion at Culham will end when JET ends – it's seen as a new beginning. The beginning of a vigorous technology programme. This

vision is encouraged by Sue Ion (Chairman of the Fusion Advisory Board). However, It is clear that the lifetime of JET will inch up into the late teens and that Culham's programme will take some time to evolve.

The cost of ITER is going up with increased costs of commodities. A change in the design and a re-costing exercise is being carried out. This may squeeze the rest of the programmes throughout Europe. Chris Llewellyn Smith mentioned this before and now Culham is starting to see the extent of the squeeze. The European Commission have informed Culham that there will be a redirection of Euratom funding. The current funding on JET is split with 75% coming from Euratom, 12.5% by British Government and 12.5% from other partners. The MAST and theory programme are funded through EPSRC with money matched at 20% from Europe. It is not yet known how the cutbacks will affect our programme, but given the facilities review JET will be the last thing to go.

On a last point, the future ownership of our site is still unclear. It has been assumed that Culham won't be owned by UKAEA for very much longer and we will be passed over to another organisation. It is up to the Shareholder Executive to decide what to do. Earlier in the year Chris Llewellyn Smith and Frank Briscoe laid out the options for the UKAEA Board and Shareholder Executive, but we are still waiting an indication what will happen. Possibilities could be EPSRC, STFC or another natural owner, but it is still unknown. We are hoping to get a decision so that the uncertainty goes away.

Cllr Stimson asked who conducted the facilities review and how will it be acted upon. Prof Cowley replied that the review was commissioned by Euratom. It consisted of 4 Europeans who were not fusion experts and 4 experts in fusion from outside the EU (one from Japan, China, Russia and the US). The reviewers were charged with looking at what facilities are needed to develop fusion, and it is a very detailed document. The document has created heated debated in Europe. Cllr Stimson asked who was to act on the report and Prof Cowley replied that the document is a guide for Government and Euratom.

Cllr Hanks asked when it would be known about the change in our home. Prof Cowley replied that this is not yet known, it could be 3 months or 3 years. Mr Garrard asked if Culham had a preference. Prof Cowley replied that a Technical Lab or a research council option would be preferred. EPSRC, for instance had supported us well, and is in support of the MAST Upgrade. Mr Garrard asked if a change of owner would affect the tenants on site, Steve Cowley replied that a change would not affect tenants. It is seen as a excellent site for science.

Mr Sharron commented that the European School infrastructure was scheduled to wind-down in line with JET. However, the UK government sees a life for the school beyond 2017, maybe to 2020. He asked if Culham saw the continuation of the school as a vital part of Culham's interest. Prof Cowley replied that the school was seen as having an important role for visiting scientists and secondees and there would be tremendous support for the school continuing even beyond the end of JET. Mr Cox and Ms C Mrozek commented that the number of secondments to Culham may increase over time with the possible closure of other labs.

Mr Broughton raised a question of Culham's interest in HiPER. Prof Cowley replied that the HiPER project is a way to do experiments at high laser intensity although it's not yet certain if fusion energy is possible through this route. The project development path is about 15 years behind magnetic fusion.

EFDA-JET report – C Mrozek

Ms Christina Mrozek gave an update on JET, in addition to the points already made above. The programme managed by the EFDA-JET Leader is currently running campaigns until the end of the year with new ones starting in 2009 up until the shutdown in the summer. The shutdown foreseen is for the installation of the ITER-Like wall and enhancement and diagnostic upgrades, with new campaigns starting after the shutdown. As mentioned above, the European facilities review stated 'JET is the most relevant device to ITER, currently being enhanced, JET needs to operate until 2014 and will benefit from an ECRH system. JET running for future years should be forseen'. This is all positive and there will be talks about further enhancements.

Since the last meeting JET has hosted several visits and celebrated the 25th anniversary of JET's first plasma which took place in June this year - a good event with many guests. In July JET hosted a visit by

a large scientific delegation from the National Nuclear Centre in Kazakhstan and some UK visits, Paul Williams (DIUS), Phil Willis (Chair of the House of Commons Innovation, Universities and Skills Select Committee), the French Ambassador and John Howell MP for Henley.

A new magazine called JET Insight is now published (and replaces the old JET Bulletin). Copies were circulated at the meeting.

Prof Steve Cowley mentioned that, in addition to the visits mentioned above, Culham had also hosted a visits by Prof John Beddington (Government Chief Scientific Advisor), Ed Vaizey MP and Ian Pearson (Minister for Science and Innovation). Prof Adrian Smith (Head of the Research Councils) will visit later in year.

UKAEA Fusion report – M Cox

Martin Cox briefly mentioned that JET had celebrated the anniversary of its first plasma this year. Although the machine is getting old, the machine is still running effectively and the reliability is very good. The current heating systems are producing record power levels.

Not a great deal has happened since the last meeting on the UKAEA Fusion programme and matters in general. After a shutdown period earlier in the year MAST is now operating. The neutral beam heating system is working well, while the other is still being commissioned and is progressing well. Full power is expected in the next few months. During the shutdown a new beamline was also installed. The MAST programme is very busy and other systems installed during the shutdown are in use.

On UKAEA matters, at the last meeting it was mentioned that the Harwell site (RSRL) had just gone into shadow operation. In practice it had slipped a bit, but is now in full shadow mode until around the end of the year. It will run in shadow mode until it is shown that everything is running as expected -- as Dounreay (DSRL) is already doing.

On other aspects there is not much to report that affects Culham. Our internal IT provider is going to be out-sourced and specifications are being drawn up at the moment. The privatisation of UKAEA Limited is being tidied up and as mentioned above, there is still the question on whether fusion remains with UKAEA.

Safety on site is still the same as it was at the last meeting. Accident statistics are very good with only one or two accidents which came as a bit of a cluster. Subsequent to the last meeting when a plumber received scolding by a hot water pipe, there was one accident where a contractor suffered a hairline fracture while backfilling a trench. Even with these two incidents the site accident level is very low as it has been for the last couple of years. Where issues arise, they are worked on in order to try and improve the accident statistics from the current good level to the one which UKAEA staff accidents are running at, which is currently nil. Our target is that good contractor statistics become perfect to none.

Dr Webster raised a question on whether there was a timescale for the privatisation of UKAEA Ltd. Mr Cox replied that, like the homes for fusion question, it's unknown. There are things which need to be resolved with the NDA. The process will be two stage, with the first possibly known by Christmas.

UKAEA Site report – Mr Ken Pagett

An update on commercial property on site was given by Mr Ken Pagett in Mike Hurl's absence. In a financially difficult time commercial property lets on site were showing some signs of decline but not as severe as other parts of the country. Culham is still receiving serious interest in space available for commercial leasing. The last two remaining tenants in B2 on North Culham Estate have now moved out and the building is being mothballed, pending demolition, as it is now at the end of its economic life.

Within commercial buildings on site there have been a couple of fires which needed the county fire service to attend. Neither fire caused damage to the buildings or to personnel. Lessons have been learned for the future and Culham staff are cooperating with tenants on fire prevention arrangements.

There is not a great deal of construction work on site at the moment. Some civil works linked to the JET enhancements started earlier. This is associated with improvements to control the JET plasma and began following approval of a planning application which was submitted and approved last May. As mentioned in May there has been much work within the buildings to rearrange office accommodation and to squeeze more people in the buildings – this work is ongoing.

With regard to demolition, it was reported that the old F1 generator site on the western side of Middle Way is being prepared for demolition. The work is moving carefully with checking electrical isolations as the old generator house had lots of electrical services. The final service isolations are expected to be completed by the end of the month before demolition can proceed. Tenders for the demolition contract have yet to be sent out, but it is hoped that a contract for demolition can be placed in the new year. At the same time it is planned to remove some redundant transformers outside the F1 building. The removal of the redundant boiler house chimney on site is also under discussion; the boiler house itself was shut down 4/5 years ago.

One other on-site piece of work, is the installation of some boundary marker posts at the front of the site, to mark the boundary of UKAEA's land where this is not obvious. There is no hidden agenda, it was simply regarded as prudent property practice to put marker posts in. One neighbour has made an enquiry and has arranged to come and visit.

On statutory planning, there are no planning applications outstanding at the moment. The next one in the pipeline will be a new building to house new power supplies for MAST which should be coming through during the winter. On the SODC framework process the next step will be the issuing by the Council of its core strategy preferred options document. This hasn't emerged yet. It is understood that the Government has changed the rules on how LDF's (Local Development Frameworks) are to be done mid-stream, and that has slowed down the work of the District Councils. Culham have since submitted to the SODC's planning officials our proposals for what would be helpful supplementary planning guidance to govern further development of the Culham site in the future. This has been done in the form of a preliminary draft of a planning document and was acknowledged by SODC as a very useful paper to the work they will be undertaking this Autumn. There is a Southeast plan and since the last meeting the Secretary of State has proposed some changes. The changes are relevant to the South Oxfordshire Development plan and Culham will be responding in the normal way and welcome them on behalf of UKAEA at Culham.

On local transport issues the local bus operator has changed from Thames Travel to Heyfordian. This has not created any major difficulties for staff on-site as there have been no major changes to the timetable at peak times. A new off-peak service that runs from Oxford to Abingdon (via Culham) has been introduced, but unfortunately it is not ideal for commuters. On site there has been a Culham Cycle group created 'culBUG' which is regarded as a helpful development as it gives us a more formalised group that can be used to discuss ways to make improvements and encourage people to cycle onto site. During the summer more bike sheds were installed on site, this was an area of concern in the past.

Cllr Stimson commented that he is interested in the Local Development Frameworks and planning guidance and asked if the change in structure applies to the green belt status. Mr Pagett replied that it is already accepted that Culham is a major developed site within the green belt. One aspiration is that Culham site should be treated as a single site for planning purposes.

Mr Deleyser raised a question on what would happen to the areas after the demolition of the B and F buildings. Mr Pagett replied that that the buildings would be replaced in line with planning constraints with broadly the same square footage/meterage. Mr Deleyser asked if the buildings were likely to be offices or warehouses. Mr Pagett replied that the site was seen as a hi-tech site both for fusion and in support of the Government's science and technology objectives. Mr Cox also commented on aspirations for developing technology that would need hangar space and there was no intention of turning Culham into a park of high-tech offices. It was recognised that flexibility and a mechanism to meet tenants' future requirements was important. The site as it stands is very attractive, especially with the dedicated power supply. Mr Pagett agreed that the power supply to the site is very important and why the site is ideal for fusion. Mr Garrard agreed that the power supply on site was also very important to Crystallax.

Cllr Stimson commented that there is a concern within the local villages over the local electricity supply and suggested this could be something that the JSSG could take on board. This could be an issue for the future.

Mr Sharron from the European School raised the issue of transport and would like to work with this group on transportation issues. Issues have not been taken on board by the OCC for a crossing at the Wagon and Horses and there is an issue with speed outside the school. It is felt generally that a serious accident is waiting to happen. Mr Martin Cox commented that it was appreciated that cycling is dangerous and was really brought home to us recently. The cycle path from Abingdon has not been incident free and appreciated that it was an issue. Mr Pagett raised a point made by cyclists, that there is not a cycle path all the way to Abingdon.

Prof Cowley asked if there was a plan to link the cycle route from Didcot through Long Wittenham to Culham. Cllr Stimson replied that there was a long-standing action to improve the route. The road is highly dangerous, but agreed that a cycleway and pedestrian route is needed. These issues had been discussed, but an easy route has not been resolved.

Prof Cowley suggested that there was a need to get together and discuss the transport issues with all the local issues clumped together and local stakeholders represented. Mr Dupond thought that Clifton Hampden would much appreciate this and would like to be involved. Mr Broughton suggested that colleagues try and have a meeting with the Council. Mr Pagett suggested that members should flag up the issues they had to Mike Hurp, who would coordinate these and forward them to Mr Broughton on behalf of the LLC.

UK PR Update – C Carpenter

At the last meeting some members of CLLC took the opportunity to see the Sundome. Following the visit it was agreed that an independent evaluation report on the Sundome would be made available to those members who were interested and these were handed out at the meeting. As reported at the May meeting a bid had been submitted for further funding as the current grant had come to an end. It was stated that if further grant was not forthcoming then it would be difficult to keep the project running. Unfortunately, the bid was unsuccessful, and having thought that funding had been lost, alternative sources were looked into. At the last minute good news was received from EPSRC that they would make a special one off payment which would fund the Sundome for a further three years.

Another part of the outreach programme includes the public open evenings. The next one in November is already completely full. On Saturday 25th October the PR group are taking part in a science event at the Orchard Centre in Didcot.

UKAEA Culham are partners in next years Oxford Festival of Science (a really important year for Oxford as far as science is concerned). The festival is in association with Oxfordshire County Council and is funded by SEEDA. It is thought that over 200 people will spend up to 6 days on site undertaking different projects to see the value of continuing education. The plans are much at a development stage at the moment.

In the media, James May's Big Ideas was recently screened on BBC2. Childrens TV (CBBC) produce a programme called 'Little Howard', who asks questions about science. They came and filmed here earlier in the year and Joana Silva helps little Howard by showing him around JET as he wants to know about the stars and the sun.

Another community outreach is through sponsorship programme with about £5k going to the local community. One recent example is a donation to Culham church for repair work on the roof. Many other local charities also benefit, where staff request donations. Successful applicants have grants awarded between £300 and £500.

John Howell, as the new MP for Henley, visited Culham and has kindly offered to sponsor a meeting at Portcullis House on the 15th January 2009. Steve will attend to give a talk and Francesco Romanelli and/or Mike Watkins will attend to represent JET.

Cllr David Turner asked if it would be possible to hold an open evening specifically for Parish Councils within a 10 mile radius of Culham. Mr Chris Carpenter confirmed that this would be possible, and will be happy to arrange a date.

Prof Steve Cowley also commented that there are some ideas to develop a visitors centre at Culham with hands-on aspects for children visiting and information for adults about energy and our energy future. A way of progressing this idea would be to send out letters asking for help towards the costs. Private donations would help. The visitors centre would provide an area where people can come in and be shown about future energy sources in this country and then possibly go on tour. Culham will be looking for ideas of how to fund such an activity and any suggestions and ideas would be welcome.

Update from tenants

On behalf of Crystalox Mr David Deleyser reported that since the May meeting, there had been two fires on site. One of which was in the Crystalox premises where there was a steam explosion. An unforeseen unfortunate event which resulted in the closing down of building D6 until repairs were carried out. This area has now been repaired, and the machinery should be considered running for 15 more years. The incident set back production at Culham, but fortunately no-one was injured. The local fire brigade was in attendance, but was not needed.

On behalf of the European School Mr Robin Holcombe/Mr Sharon briefed the meeting that the European School was set up to support JET in 1978 and had just celebrated its' 30th anniversary. As a result of JET being wound down the European Commission has decided to phase out the school as it's funded by the European Union. As it has a unique role a proposal has been put forward to continue the school beyond 2017 (the date set by the European Union as its final closure date). It might be that in the future 85% of pupils will have to pay a small fee for their education. Alternatively the cost of education might be free, maintained by the UK Government. That is a mouth-watering prospect for the future but the project is subject to lots of negotiations between the UK Government and the European Commission. Any support would be very welcome.

Another interesting item for this meeting is that if the school became an Academy it would specialise in languages and science, enabling the retention and building of links within the science community, Harwell, RAL and Oxford University. A visitor centre could married, in a creative vision for the future as the school and Culham are so close. The style of education from the European School is delivered in several languages and the students emerge trilingual. A stakeholder meeting is being arranged for the 28th November and will be looking at the becoming an academy.

Any other business

Cllr Hanks raised the issue of planning permission for the incinerator at Sutton Courtenay. A timescale is not yet known, but it is thought that it would be a couple of years before anything happened. If the proposal is accepted, it would be built on the site of the existing dump. It would generate electricity for the grid in a building bigger than JET.

Following no other business, Prof Cowley closed the meeting by thanking everyone for attending.

Date of next meeting

Thursday 23 April 2009

Prof Steve Cowley, Chairman

Date of issue: 6 April 2009

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