



HARWELL-CHILTON CAMPUS LOCAL STAKEHOLDERS GROUP

Minutes of the 83rd meeting held at the Satellite Applications Catapult on Friday 15th May 2015

PRESENT

Chairman: Chris Broad Chilton Parish Council
Secretary: Angela Vincent, Magnox
Minutes Secretary: Malcolm Crook, Magnox

MEMBERS

John Sharp	East Hendred Parish Council
Paul Bryant	West Berkshire Council
Bill Hanks	Sutton Courtenay Parish Council
Derek Whitmell	Upton Parish Council
Julie Pearce	Oxfordshire Federation of Womens Institutes (OFWI)
Sue Scane	Oxfordshire County Council
Terry Fraser	Grove Parish Council
Dee Boughton-Waite	Harwell Parish Council
David Marsh	Harwell Parish Council
Neil McColl	Public Health England
Andy Staples	Magnox
Paul Atyeo	Magnox
Helen Bradley	Magnox
Kim Mercer-Rolls	Magnox
Ian Shaw	Nuvia
Peter Waldeck	Nuvia
Joe Kelleher	STFC
Sarah Bucknall	Diamond Light Source
Bernard Cooper	Didcot Town Council
Mike Badcock	VWHDC
Sandra North	Chilton Primary School
Christine Reardon	Chilton Primary School
Reg Waite	VWHDC
Dr Christine Williamson	Medical Research Council

OBSERVERS

Rebecca Cleverley	EA
Vincent Green	ONR
Richard Jenkins	Magnox
Stuart Clark	Magnox
Graeme Stonell	Magnox
James Barguss	Magnox
Victoria Thomas	Magnox
Claire Williams	Magnox
Holly Edwards	Magnox
Steve Moss	UKAEA
Duncan Rogers	Harwell Oxford
David Rushton	NDA
Ade Elsley	MRC
Peter Waldeck	Nuvia

Peter Hayes
Susan Holdroyd

ONR
RSRL

MEMBERS OF THE PUBLIC

Peter Walker
Liz Softley
Andy Softley
Stephen Druce

APOLOGIES

Isabelle Boscaro-Clarke	Diamond Light Source Ltd
Trevor Brown	Oxfordshire County Council
Jo Harris	Ricardo AEA
Catherine Pridham	UK Atomic Energy Authority
Paul Steventon	Public Health England
John Wilkins	Member of Public
Jon Blackmore	Magnox
Bernard Cooper	Didcot Town Council
Janet Shelley	VWHDC
Stephen White	Member of Public



HARWELL SITE STAKEHOLDER GROUP 83RD MEETING

Date: Friday 15th May 2015
Time: 10:00 for refreshments, meeting starts 10:30
Venue: The Satellite Applications Catapult, Electron Building, Fermi Avenue, Harwell Oxford, OX11 0QR

AGENDA

1. Chairman's remarks:
 - Welcome guests
 - Chairman's Notes – Chris Broad (10)
 - Apologies for absence and changes in membership – paper at the back of the room.
2. Minutes of the 82nd meeting held on Friday 5th December 2014
3. Matters arising:

LETP Decommissioning:

Q1: Are there any plans to remove the kink in the cycle path that currently exists in between the LETP and former Sewage Farm site?

A1: It's not part of the current plan but RSRL will look in to the issue. It is possible that this may only be achieved post land remediation. There are also no plans to divert the footpath during the demolition phase of the project.
4. **RSRL Licensed Site Matters**
 - (a) Closure Director's Site Report – Andy Staples (20)
 - (b) Nuclear Materials Movements – Helen Bradley (20)
5. **Reports**
 - (a) Office for Nuclear Regulation – Vince Green (10)
 - (b) Nuclear Decommissioning Authority – Dave Rushton (10)
 - (c) Environment Agency – Rebecca Cleverley (10)
7. **Campus Matters**
 - (a) Harwell Campus Joint Venture Partnership – Duncan Rogers (15)
 - (b) Science and Technology Facilities Council – Joe Kelleker (10)
 - (c) Diamond Light Source – Sarah Bucknall (10)
8. **Any other business:**
9. **Meetings 2015:**
 - Sub-group meeting: 9th June 2015 at 14:00
 - Full meeting: Thursday 2nd July 2015 at 17:30
 - Sub-group meeting: 8th September 2015 at 14:00
 - Full meeting: Friday 4th December 2015 at 10:30

Angela Vincent - SSG Secretariat

Malcolm Crook - Minutes Secretary

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SSG Agenda 15th May 2015

(1) Chairman's Remarks

The main points were as follows:

- This is the first meeting to be held since RSRL has been rebranded as part of Magnox. A large amount of work had gone into achieving this milestone.
- Margaret Turner has stood down from her role within the VWHDC and will therefore no longer be a member of the SSG. The Chairman thanked Margaret for her service to the SSG over a number of years.
- The Chairman had attended a meeting on the 24th February for SSG chairs for the Magnox sites which largely covered Socio Economic Strategy and stakeholder engagement. He felt that the former Magnox power station sites were facing a greater level of change than Harwell and Winfrith.
- One item of interest was the issue of community benefits which is where donations can be made to local groups and charities etc. This will continue in future with Harwell and Winfrith adopting the arrangements used by Magnox.
- Forthcoming meetings of importance were the NDA Strategy Meeting in Manchester due to be held on 18th May followed the next day by the SSG Chairs Meeting. The Chairman will report back on any issues arising from these meetings later in the year.
- Recent planning application submitted to VWHDC cover fairly significant changes to the campus in the form of new buildings and cross site road etc. These developments would be more widely discussed during the Joint Venture and STFC presentations later in the meeting.
- A significant local issue for stakeholders is housing. The Chairman felt that villages such as Chilton and Harwell were under siege from large numbers of proposed new housing development applications. Much of the proposed housing developments are due entirely to the success of the Harwell Campus and creation of more jobs. It was felt that if all the proposed developments went ahead they would radically change the character of local villages.

(2) Minutes of the 82nd meeting held on Friday 5th December 2014

- These were accepted.

(3) Matters Arising

LETP Decommissioning:

(Q1): Are there any plans to remove the kink in the cycle path that currently exists in between the LETP and former Sewage Farm Site?

(A1): It's not part of the current plan but Magnox will look into the issue. It is possible that this may only be achieved post land remediation. There are also no plans to divert the footpath during the demolition phase of the project.

- Paul Atyeo of Magnox commented that the cycle path will be diverted during the land remediation phase of the LETP project. The diversion will be in place for the duration of the land remediation project and will be included as part of the planning application covering that project.

(4) Magnox Licensed Site Matters

(a) Closure Directors Site Report – Andy Staples

The main points were as follows:

Environment, Safety and Security

- There have been no issues relating to Safety, Environment and Security during 2015 which included in particular no International Nuclear and Radiological Event Scale (INES) or Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) incidents.
- There had been no Total Recordable Incident Rate (TRIR) injuries at Harwell in 2015. Andy commented that he was very proud of all of the teams at Harwell that had delivered this as Safety, Security and Environment are regarded very highly on site.
- Completion of the site security upgrades is scheduled to be completed during the summer which will include additional fencing for the Solid Waste Complex plus a new-build staff search facility.

Major Changes Introduced

- RSRL had been relicensed and rebranded as Magnox. This process involved a large amount of work for staff within RSRL and Magnox which involved changes to work systems, clothing and site signage.
- A management of change has been implemented and Harwell and Winfrith have now been regionalised within Magnox as Southern Sites.
- A new Enterprise Buyer professional (EBP) system has been introduced called Agresso.

Last Financial Year, Operational

- Harwell delivered its materials transfer targets in relation to transfer of waste materials to Sellafield.
- An Invitation to Tender (ITT) has been issued for construction of the new site Intermediate Level Waste store to be constructed on the site of the former Harwell Transport Section. It is expected that after a period of design consultation construction work will commence by March 2016.
- A large amount of waste accrued from decommissioning of the Old Main Active Drain (OMAD) and at the Liquid Effluent Treatment Plant (LETP) has been transferred off site to suitable repositories.
- Scheduled planned work on OMAD has been completed leaving only a relatively short section left for removal. B462 has delivered their recovery target for processing of cans of historic waste material into new containers for eventual transfer to the National Geological Disposal Facility.

Current Financial Year

- A funding allocation has been agreed covering Harwell and Winfrith that will concentrate on high hazard work and also completing missions such as decommissioning of the LETP, OMAD and materials transfers.
- A new Lifetime Plan for Harwell and Winfrith is due for completion in the summer at which time it will be issued to NDA.
- There are challenges at both sites to continue to deliver savings to the pool of monies available on all Magnox sites which is managed centrally.
- As part of the process of RSRL being joined with Magnox, Programmed delivery is being introduced. This will mean that work streams such as waste will be managed by a single executive..

LETP

- B175 the office/analytical services laboratory building at LETP will shortly be demolished.
- Work to decommission the High Level Activity (HLA) plant in which bulk materials were formerly stored in several large tanks has progressed to the point the majority of the materials have been removed. Following removal of any remaining silt and final decontamination a contract will be let to facilitate demolition of the plant. It is planned the facility will be demolished to base slab by the end of the current financial year.
- It is planned that by July 2015 all above surface structures at LETP will have been removed.

British Experimental Pile One (BEPO) reactor

- The existing door on the top of BEPO has been removed and replaced by a new removable thermal door that will enable later reactor decommissioning. This work revealed the reactor shut-down rods for the first time since 1968.

Modular Flask

- Andy provided a photograph of one of the modular flasks being refurbished in order to facilitate transfer of Winfrith Dragon reactor waste to Sellafield. This work is part of the preparation phase ahead of transfer expected to commence in 2017.

B462 Preparation/Nuclear Materials Movement

- Work is being undertaken on the floor in B462 complex in preparation for processing of the Gemini Flasks that will be used for transfer of Contact Handled Intermediate Level Waste (CHILW) and some concrete lined drums to Sellafield. Work is being undertaken to strengthen the floor of a facility in B462 for use when concrete lined drums are loaded into Gemini transport flasks for transfer to Sellafield.
- A photograph showed some of the waste leaving site. A total of 1102 packages were sent off site during the previous year.

Baseline 2014

- Andy provided a series of photographs depicting how the boundary of the Harwell site will change from today until 2048 when it is planned to be only a science campus. By 2027 an Interim State will be achieved whereby most of the site will be taken up by Science Campus facilities with a small Licensed Area remaining containing the Solid waste Storage Area awaiting availability of the Geological Disposal Facility.

Socio-Economic Scheme 2015/16

- Andy provided background information regarding the Socio-economic scheme and how the system is being realigned under the Magnox banner.
- All Magnox socio-economic activity has to support the NDA's policy which has the aim of mitigating the impacts of carrying out decommissioning activities. A consistent approach will be adopted going forward as sites work towards care and maintenance.
- Magnox will manage the combined scheme on behalf of NDA and will have a funding portfolio of up to £1 million each financial year across the 12 sites.
- Andy provided details of the funding levels available plus how applications can be made and how they are reviewed. For more details see the <https://magnoxsocioeconomic.com>.

Questions

(Q1): As a result of Harwell becoming part of Magnox, will the proposed date of final clean-up of the site be put back as a result of priority being given to work on other sites?

(A1): This is a difficult question to answer. The issues run around the area of funding availability. I cannot speculate on funding levels that will be provided to our customer the NDA in future. The funding body for this work is DECC which is not a protected department.

There are likely to be funding issues post election and how this will feed down to Magnox I don't know. Within Magnox what we are trying to do is operate all sites on the basis we will deal with high hazard work first whilst being mindful of other aspirations on specific sites.

At the moment we are not planning any significant changes to the dates I gave you. What there might be is that the contract was negotiated as Phase 1 which was up to 2021 and then Phase 2 which was up to 2027. There may be some changes in that work we were planning to do in the early phase may go into the later phase and vice versa. This review won't be complete until the LTP is complete in August. I think the big uncertainty will be how the DECC funding works for the next few years.

(Q2): Can you say something about what you expect to happen to the number of jobs on the Harwell site going forward?

(A2): Well I think whilst we operated as a single business as RSRL we are now merging with Magnox so now we are in larger business so undoubtedly there will be some reduction in areas such as finance, HR, etc. In terms of operating projects we are not in

a position yet to be clear on if there will be any changes. But I think two organisations becoming one will free up some posts.

(Q3): You said there was £5000 to distribute and then you were talking about grants of £10,000?

NOTE: The questioner also provided details of a system in use at the Greenham Common Park site called "find me a grant" which allows different organisations to contribute in a combined manner to specific causes.

(A3): The £5000 was what we had been using up until now. Going forward there is a budget of around £1m covering the entire Magnox estate. When we are looking at some of the larger grants we will be looking at matched funding.

(Q4): I note the progress made on the Liquid Effluent Treatment Plant. Is there a date in the plan for completion of the land remediation phase?

(A4): We are looking for delicensing to take place in around 2021 after which there will be a process of de-designation before the land can be released for unrestricted use outside of control of the Energy Act.

(b) Nuclear Materials Transfer Programme– Helen Bradley

The main points were as follows:

Recap – Project Objectives

- There are four Nuclear Material waste streams that will be transferred off-site plus physical modifications are being made to security of the waste whilst at Harwell.
- These changes will over time allow a reduction in the security arrangements for the site as a whole and allow replacement of CNC with a civilian guard force.
- Removal of the materials from site will allow significant savings to the Magnox-Harwell plan through reduced security costs and reduced ILW volumes.
- Environmental benefits of the work will be to negate the need for new build or modifications to processes at Harwell. A facility at Sellafield will allow 50% of the CHILW waste drums to be super-compacted which in turn will reduce the amount of space needed at the GDF.

Recap – Four Nuclear Material Waste Streams

- Around 4000 drums of Contact Handled Intermediate Level Waste (CHILW).
- 2332 Concrete Lined former sea disposal drums (CLDs).
- 251 stainless steel canisters of Dragon Waste.
- 57 drums of Low Enriched Uranium.

Progress since December 2013

200-litre CHILW Drums

- So far 2011 CHILW drums have been transferred from Harwell to Sellafield with 53 drums using the Type B Nupak transport package and 1958 in the IP2 re-sealable full height ISO (FHISO).
- Helen provided photographs showing the drums in storage in the Radiochemistry Building and the same scene after they had been removed.
- There have been problems with availability of the Nupak/Novapak type B transport package since 2013. Discussions are ongoing with Nuvia who are the Design Authority and ONR-Transport to try and establish a way forward. Work has continued with transfers of the FHISO containers.
- The problems with package availability will mean a delay to the proposed end of the CHILW drums transfers until 2019.
- Before the CHILW drums can be received into the Engineered Drum Store (EDS) there are requirements to produce agreed Conditions of Acceptance (CfA) and a Safety Case to cover the storage.
- A phased approach has been used to cover deposition of drums in the Sellafield store. Firstly drums similar to those at Sellafield were despatched in the first phase whilst subsequent deliveries covered drums subtly different which had to be accounted for in the Conditions of Acceptance and Safety Case.
- A small number of the drums will be opened and subjected to investigating to clarify understanding of the contents before they are despatched.

Dragon Waste Transfer Preparation

- Transfer of this material will be via 1.5 Modular flasks.
- An updated Certificate of Approval has been submitted to ONR and is currently being assessed.
- Two existing flasks and main frames (boxes) are currently being refurbished and maintained. A third 1.5 Modular flask will be procured next year that will help keep the transfer process proceeding efficiently.
- Helen provided a slide detailing strip down, decontamination and refurbishment of a modular flask to be used in the transfer of Dragon Waste.
- A Dragon retrieval flask will be used to retrieve the waste from the store for loading onto a transfer flask to transfer off-site. A similar flask will be used at both Harwell and Sellafield to facilitate transfer in and out of the containers. Sellafield and Magnox teams have worked very closely together on this task.
- A Safety Case Modification for transfer of the waste from Harwell has been commenced. A preliminary safety report has been approved and work is ongoing on the pre-construction pre-commissioning safety report.

Concrete Lined Drum (CLD) Transfer Preparation

- Transfer of these drums by FHISO is planned to start in 2016.
- The CLDs will be transferred in stillage's to the EDS at Sellafield. A stillage is a cage like structure allowing up to 4 drums to be lifted up by a fork lift truck at one time and also allows greater ease of storage.
- Modifications to the loading facility have commenced and as mentioned earlier in the meeting a new floor surface is being constructed that will be followed by installation of crane for loading purposes.
- A modification to the Safety Case covering the CLD transfers has commenced.
- Transfers of CLDs via TN Gemini have been delayed until 2017 which is largely due to the delays in preparation of the license application. There are three Gemini packages owned by NDA but the Design Authority is Arriva and the license has to be issued by the French Competent Authority and then by the UK Competent Authority.
- Guidance had been issued by the French Competent Authority which required Arriva to go back to their license and do some generic work on material properties at different temperatures. This work is now complete and they will now start work on more specific issues that the guidance requires on new licenses and this has to be completed before they can begin preparing for the submission. The French License is due in 2017.
- Ongoing work is required to refurbish and maintain the TN Gemini transport package plus there is a need to procure internal furniture for the CLDs.
- Helen provided a slide detailing preparation of CLDs and the TN Gemini Type B transport package.

Low Enriched Uranium

- A business case was put together to look at options for LEU Stored at Harwell.
- The preferred option for this material is now transfer to Capenhurst for extended storage. The future transportation of the LEU will be processed following negotiations between Magnox_Harwell and Capenhurst Nuclear Services (CNS).

Encapsulation of Sources

- Helen provided photographs showing how sources are placed in 3m³ boxes and then encapsulated in liquid cement to facilitate long term storage at Harwell in a form that makes it impossible for them to be stolen.

Programme

- The projects to take forward transfer of the various waste materials from Harwell have been developed with changes being made accordingly along the way.
- Changes to have taken place will see an decrease in the scope of work at Sellafield and an increase in scope of work at Harwell which. In turn these changes will see a delay in the end of waste transfers.

- The final date for replacement of the CNC with a civilian guard force remains on schedule.
- The waste transfer programme is linked to planning permission for the on-site ILW store and is currently in line with the Winfrith LTP.
- Helen provided a copy of the schedule plan for the waste transfer programme.

Questions

(Q1): You mentioned the impact of moving waste from Winfrith, is there a delay in that context in respect of planning permission for the ILW store?

(A1): We are not yet critical path for Winfrith moving their waste to Harwell. We will have removed the material off-site that has to be removed before Winfrith begin to transfer their waste here.

(5) Reports

(a) Office for Nuclear Regulation – Vince Green

The main points were as follows:

Inspections

- At the time of the meeting Vince was the ONR Nuclear Safety Site Inspector for Harwell. He explained his presentation would cover the areas as described in the normal ONR quarterly report and would also focus on the regulatory activity required as a result of the merger of RSRL into Magnox which required Harwell and Winfrith to be relicensed.
- Following changes to ONR protocols they now carry out systems based inspections looking at site systems that deliver safety to see if they are being operated in line with safety cases and that staff are adequately trained to use them. Focus is placed on Cat 1 facilities such as B462 complex at Harwell and SGHWR at Winfrith. Systems inspected at B462 included heating and ventilation. Vince carried out the inspections alongside a specialist ONR mechanical engineer inspector.
- Under Licence Condition 2 (LCI2) ONR had carried out a survey to ensure the site boundary was correctly marked. Similar inspections were carried out on LCI13 Nuclear Safety Systems and LCI17 Management Systems.
- The inspection carried out on B462 found that the Heating, Ventilation and Air Conditioning system (HVAC) met the requirements defined in its safety case and was adequate. As part of the process ONR are required to rate 6 license conditions and within B462 there were 2 rated as good and 4 as adequate.
- For LCI 2, 13, 17 these were deemed as adequate but some issues required to be addressed prior to relicensing.

Inspections

- Two incidents at Harwell had been followed up and ONR were satisfied with the licensee inspections and follow up actions.

Relicensing of Harwell/Winfrith Sites to Magnox Limited.

- Relicensing was required because RSRL and 10 Magnox sites were being brought together under a new Parent Body Organisation (PBO) the Cavendish Fluor Partnership (CFP). The old license was therefore revoked and a new one covering the new arrangements put in force.
- Vince explained ONR provide information about licensing on the Harwell site and they advised the former RSRL team where to focus in relation to relicensing.
- ONR focussed on organisation changes associated with the relicensing. ONR has asked that a common “management of change” policy be adopted across all of the sites plus a programme for implementation of these arrangements, nuclear baseline and corporate functions.
- ONR focussed on the safety cases used at Harwell and Winfrith and asked Magnox to check the content in view of the fact that they had been developed using a different methodology.
- ONR looked closely at License Condition Compliance arrangements and in particular what potential impact relicensing would have on LCI 11 “Emergency Arrangements”, LCI 35 “Decommissioning” and LCI 36 “Organisational Capability” at Harwell and Winfrith.
- Other issues to be considered by ONR were verification of the site boundaries, consultation with public bodies such as EA, the applicant’s readiness for relicensing and legal aspects such as drafting of new licenses etc.

Relicensing: Decisions/Outcome

- New Licenses and revocation of existing licenses was granted on 30th March 2015 and the new license came into force on April 1st.
- Approval of the Nuclear safety Committee (NSC) Terms of Reference (ToR) was granted under the new licenses.

Post Relicensing Work

- Agreement of LCI 35 “Decommissioning Milestones” to be put in place under revised LCI 35 arrangements. Discussions are ongoing on this issue.
- Approval confirmed of NSC arrangements for dealing with urgent safety proposals.
- ONR is continuing to oversee the PBO’s transformation programme in relation to organisational change and changes to LCI compliance.

Change of Site Inspector

- Vince announced that he will be leaving the post of Site Inspector for Harwell and Winfrith and will be replaced by Peter Hayes who would take over the post in early July 2015.

Questions

(Q1): You mentioned the Nuclear Safety Committee and that this forum had independent members. Can you tell us who these are please?

(A1): There has been no change of the membership of the Harwell Nuclear Safety Committee. It is a requirement that the NSC has one independent member but in reality they have 2. One is called Professor Denis Gibbs. These individuals provide insight on safety matters from outside the nuclear industry. In order to provide context to this question Graeme Stonell of Magnox Harwell explained that former Head of Site John Wilkins would provide a similar function on other outside forums.

(b) Nuclear Decommissioning Authority – Dave Rushton

The main points were as follows:

- Dave began by explaining about the effect the Perda issue had on NDA which meant they would not have been allowed to attend the meeting on its originally planned date. He thanked Harwell SSG for agreeing to reschedule.
- He reported that the new ministerial team within DECC that NDA would be interacting with had been announced. The Secretary of State is Amber Rudd supported by Andrea Leeson the Minister of State and Lord Bourne.
- The main NDA focus on the PBO contract is the process called consolidation. This work involves going through a change process relating to the revised Lifetime Plans in relation to the bid put forward by CFP. The Harwell and Winfrith site are in the first phase of this process and the new plan should be in place by the summer.
- NDA continue to monitor Harwell/Winfrith on the areas of safety, security and environment. Although Harwell has not had any significant incidents NDA expects them to continue to improve and to look at experience at other sites to see if it can be adopted here.
- Harwell has met all of the targets set for it NDA regarding waste processing at B462.
- Decommissioning will continue at LETP. This was an important area as the wider campus wish to develop the area in due course.

Questions

(Q1): Can you say anything about the spending review due to be announced in the Autumn?

(Q2): For this year the funding is already agreed and allocated. For next year we have started making the preparations for it but it is unclear what the outcome will be. NDA has done fairly well in previous reviews where various scenarios have been put to the

government regarding the impact of levels of spending. It is hoped that by the December meeting we will have a good idea of spending levels.

(c)Environment Agency – Rebecca Cleverley

The main points were as follows:

- Since the last SSG Rebecca has become lead regulator for the Magnox Harwell site taking over from Rob Macgregor.
- In January 2015 EA granted a partial surrender of the sites environmental permits covering the B353 Area and VEC areas which had been delicensed by ONR in 2014.
- The relevant environmental permits and consents for the site had been transferred from RSRL to Magnox in line with the requirements of relicensing. All relevant issues had been complied with and the transfer was carried out on the 1st April.
- EA regulates radioactive waste disposal to the environment and they do this by issuing environmental permits that contain limits and conditions aimed at limiting waste and any potential damage to the environment. Checks are made to compliance with the regulations by carrying out regular checks.
- Once the regular inspections are carried out the EA issue a report called a “Radioactive Substances Compliance Assessment Report”. Since the last SSG meeting Rebecca had carried out a joint inspection with Vince Green of radioactive waste management and storage arrangements. No breaches of the permit were identified during this inspection and both ONR and EA were satisfied with the arrangements in place at all of the areas visited. A report will be issued in due course and the detail will be made available on the EA website.
- No non-compliances have been raised at Harwell since the last SSG.
- All levels of discharge from Harwell site are well within limits of all the permits and there have been no issues.
- Since the last meeting a new report has been issued covering Radioactivity in Food and the Environment (RIFE) covering 2013 which is available on the EA website. The RIFE report presents a yearly assessment of the radiological dose to the local population in the areas around nuclear establishments. For 2013 the dose for people living near to Harwell campus was 0.010 mSv which is down from 0.018 mSv in 2012 which is a very low level radiological dose which is well below the government regulation in 2012 which is a very low level radiological dose which is well below the government regulations.
- During the early part of this year EA has been reviewing its independent environmental monitoring programme for nuclear sites such as Harwell. The programme for Harwell has remained unchanged for many years and does not now reflect progress in decommissioning on the site. The survey needs to be proportionate to the risk whilst also ensuring stakeholders are confident environmental impacts are limited. Once the results of the review are known they will be published accordingly.

(7) Campus Matters

(a) Harwell Campus Joint Venture Partnership – Duncan Rogers

The main points were as follows:

- New RAL space technology Research Centre is nearing completion. The facility will be used for space test facilities, instrument and mission design and development of technologies for new missions. The facility will consist of laboratories, clean rooms, thermal vacuum chambers, satellite instrumentation and will be involved in over 200 space missions. The facility is due to open in July 2015.
- The European Space Agency (ESA) European Centre for Space Applications and Telecommunications (ECSAT) is also nearing completion. This facility will promote research in the fields of telecommunications, climate change, earth observation space science, exploration autonomous systems and new novel powers. The facility will be manned by 100 ESA staff and will open in July 2015.
- A significant development on site will be the North/South Link Road which will make cross-site campus interaction much easier. This road is under construction and is due for completion by September.
- Duncan provided details of proposed future develops on the campus which will include in Phase 1 a 45,000 sq. ft. Innovation Campus, a 6,000 sq. ft. restaurant and gym, pre-let developments, local infrastructure and an enhanced public realm.
- The Innovation Centre will encompass a three storey serviced laboratory and office space. There will be meeting rooms and break-out spaces. It will be located within what's known as the "quod development" where there will also be a Science Discovery Centre housing a number of Pre let plots.
- Another development will be Genesis building incorporating laboratory, office and light industrial usage for multiple occupiers with shared amenities.
- Duncan provided artist impressions of the new facilities will look and also of how the campus will be laid out as it develops. The various space facilities are being gathered together to form what will be known as the Space Gateway Concept.

Questions

(Q1): Could you make a copy of the presentation available to those that are interested?

(A1): Yes.

(Q2): On the restaurant and gym facilities, will these be accessible to members of the community as well as campus staff?

(A2): Yes.

(Q3): You said town buildings. How many residential properties does this include?

(A3): We already have 275 houses at Chilton Field. We are looking at more residential developments in the north of site which could involve between 600-700 houses or maybe more.

(b)Science and Technology Facilities Council – Joe Kelleher

The main points were as follows:

- Joe works in the RAL ISIS facility and will carry out STFC presentations going forward.
- ISIS is a neutron source providing neutron radiation used by universities and industry.
- Protons are released in bunches to target station buildings where the neutrons are used in a variety of experiments. This technique is the favoured modern technique for producing neutron radiation as there is no use of nuclear fuel and the technique produces a much smaller amount of nuclear waste.
- Joe provided a schematic of the facility he works on which contains neutron detectors used for work such as examining weld integrity in all areas of industry including nuclear new build.
- CHIPir is a facility that tries to simulate the type of radiation found in the upper atmosphere such as cosmic radiation. This type of work is used to test electronic circuits on aircraft and satellites to see if the circuits can still function when subjected to these forces.
- The RAL facilities are used in the field of archaeology by measuring finds. An example was measurements carried out on copper rods or bolts used to hold together wooden ships in the 1700 and 1800 hundreds. The original boat builders found that copper plating on the hulls of ships was useful for repelling ship worm and other sea life such as barnacles etc. Three different bolt manufacturers developed different techniques for using the copper and the investigative techniques allow scientists to identify which bolt manufacturer had been used on which ship.
- Neutron Radiography can be used to check for weaknesses in structural integrity of bolts and welds etc used in manufacture of large structures and machines. Joe provided an example of a nickel bolt provided by Rolls Royce.
- Joe described the proposed green laser facility that will be mounted on a building at RAL that will be used on an occasional basis for promotional purposes relating to onsite activities. The laser will shine from one side of Fermi Avenue to the other onto the research complex projecting out a message. All relevant bodies such as the Civil Aviation Authority (CAA) have been informed and are happy with the proposed usage. A safety system has been used to ensure that the system only projects onto the building in question.
- The laser will not be on permanently and will only be used on special occasions.

(c)Diamond Light Source – Sarah Bucknall

- Sarah provided an overview and update on Diamond facilities operations.
- Diamond uses electrons to examine materials on atomic and molecular detail. This technique is applicable to a wide range of sciences.

- Diamond is being constructed on a phase by phase basis. The third phase is now underway and this will encompass 11 further beam lines which will be operational by 2018. A beam line is an experimental station utilising the beam from the synchrotron in order to carry out experiments. Three of the Phase 3 beam lines are in operation with 2 more expected this year.
- The new beam lines will cover condensed matter physics, materials research, life sciences etc. There will be an imaging beam line that will examine the internal structure of the whole cell and look for any changes associated with dizzy spells or the effects of drug treatments.
- As well as adding new beam lines work is also carried out to develop those already in use. One of the Phase 2 beam lines used to carry out powder diffraction experiments has been adapted so that it can now carry out long duration experiments spanning months or even years.
- One of the experiments to be carried using the long duration system is to examine the hydration of cement used by the nuclear industry in the storage of waste. Other areas that will benefit from long duration experiments could be gas storage, fuel cells, seasonal effects and corrosion studies.
- New buildings are being erected to support Diamond. One of these is a new materials characterisation facility. This will contain one of the Phase 3 beam lines looking at elemental chemical structural changes in materials. Also there will be four electron microscopes used in the life and physical sciences field. This building will be occupied by the end of 2015.
- The UK-XFEL Hub will be developed at Diamond. XFEL is an x-ray free electron laser. This facility works by producing extremely intense and bright pulses of X-Ray light allowing a researcher to effectively take snap shots of atoms in motion. The life sciences beam line is being constructed by a consortium led by the UK. It will be used to prepare scientists that will be undertaking other work on a larger facility in Hamburg in Germany.
- Almost 4,000 publications have now been published as a result of work carried out at Diamond. The documents are placed in a database and tagged under a number of different categories. A large number of the reports are in the fields of Biology and Chemistry.
- Work carried out at Diamond is often reported in the news. Work is ongoing about production of synthetic vaccine to fight disease such as Polio. Such a vaccine would not contain any of the live virus.
- 2015 is the International Year of Light. Diamond has taken part in a number of science events.
- There are opportunities for work experience, student placements and internships at Diamond.

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