Electrical upgrade project underway at LLWR

A major upgrade to LLWR's ageing electrical system has recently started to bring the site power supply up to current electrical regulations and improve system reliability. The project is known as the *11 kV Project*.

There are five, High Voltage substations at LLWR which distribute the electrical supply around site through an 11,000 volt (11kV) electrical ring. The LLWR 11kV ring is fed from Substation 1 and the four remaining substations lower the voltage down to useful voltages within the LLWR site buildings.

The design for the substations was competitively bid under our site framework agreement and was successfully won by AT Group of St. Helens.

The new high voltage equipment is to be housed within new enclosures (modules) to help protect them from the coastal environment and to provide a more suitable and controlled environment for High and Low Voltage switching operations. These substation modules will be manufactured off site by ATG at St. Helens.

Sub Station at LLWR

Two large earth cables will be installed between each of the substations following the existing HV cable route to provide electrical safety to current UK regulations. The system will also be installed in parallel to provide greater reliability, security, and minimise downtime. Another upgrade feature incorporates a diesel generator unit for additional electrical supply security.

Another innovation is for the module infrastructure equipment (lighting, heating etc.) to be tested offsite so the module can be tested and credited towards site acceptance earlier before receipt at LLWR.

Planned outages for the existing substations will be controlled by the existing LLWR method statements for each substation. Prior to outages, a readiness review will be conducted to ensure their validity against the existing plant status

Stakeholder Engagement Drigg Beach Project

LLW Repository have joined forces with the local Community to help preserve the neighbouring scenery.

Protected species and a Site of Special Scientific Interest (SSSI)- we normally think of our very own LLWR site when we see those phrases. But we are not the only ones who have access to a special protected habitat , the community at Drigg have access to an SSSI at the beach. The community take great pride in the natural beauty of their local area and want to make the most of it. LLWR have been working with the community leaders to assist in some practical ways , Martin Walkingshaw and Claire Gallery-Strong have been offering some help.

We asked the community what they want to do and they told us they want to get to the beach without getting mud on their boots and to enjoy a walk on a clean litter free beach. They have already been working on a project to improve the drainage on the track to the beach and LLWR were able to offer some practical help. Mike Palmer, our Engineering Standards Manager did a site visit to inspect the plans and offer expert advice. He assessed the drainage requirements, suggested suitable piping and oversaw a trial pit dig- all practical help the community really appreciated. The project is expected to be complete in Spring 2011. Martin and Claire will continue helping the community with their future planned project which include looking at the car parking arrangements and signs for the SSSI.

Drigg Beach

LLW Repository Ltd

Low Level Waste Repository Site

Drigg, Holmrook
Cumbria, CA19 1XH
Tel: +44 (0)19467 24800
Fax: +44 (0)19467 24801
www.llwrsite.com

LLW Repository Ltd

ON THE LEVEL

ISSUE 7 JANUARY 2011 NEWS AND VIEWS FROM THE **LLW REPOSITORY**

Directors Corner

A CONTINUING PRESENCE FOR DECADES TO COME

LLWR has been a key fixture of the Cumbrian Coast for many decades now. Originally the site served a vital national role as the Royal Ordnance Factory from 1939 and today it continues that vital national role as the primary repository for low level radioactive waste.

Today's mission is to safely dispose of the material from across the UK's nuclear industry, hospitals and universities and to ensure a robust and reliable disposal route for many, many decades to follow. Be it waste disposal, safety case development, or obsolete facility decommissioning, our staff strive to provide the best value for the UK taxpayer and generations of Britons to come. We strive to be "good neighbours" and work closely with local communities, first and foremost with the Drigg Village that surrounds our Installation fence.

We have developed new transportation models to emphasise rail service to the site in order to preserve the quiet non-industrial nature of this beautiful Lake District village. Our staff is active in community support and several serve on local authority councils. We work diligently to integrate with Copeland and Cumbria officials while driving to meet the Nuclear Decommissioning Authority's needs.

I hope you will find these articles about the important work "inside the fence" to be both informative and entertaining.

Dick Raaz
Managing Director

"Inside the Fence"

Cath Giel talked to Scott Anderson about the challenges he faced when he took up his position as Site Operations Delivery Manager.

Scott Anderson is a quietly confident and considered individual who knows what he wants and is not afraid to go after it. A renowned perfectionist with an eye for detail, Scott has a supreme work ethic that you can not fail to recognise and respect.

As the Operations Delivery Manager at the Low Level Waste Repository, Scott carries the responsibility for day to day operations and maintenance at the LLWR site. Much has changed since Scott's introduction to LLWR in April 2008 and most of the changes have been guided by Scott's hand. When asked what were the biggest challenges facing him when he took up the role Scott replied "I knew when I came to LLWR that Vault 8 was almost full and Vault 9 would not be available for at least 12 months so bridging the capacity gap for receipt of the Nations low level radioactive waste was crucial. What I didn't know, was how much was left to do to complete the decommissioning of legacy plutonium contaminated material (PCM) facilities. Managing these two major issues during a period of significant change for the workforce has most definitely been a big challenge .

Leading by example, Scott has been able to instil new principles and values throughout the LLWR organisation. He has witnessed a step change in the quality and compliance based discipline of operations at the Site. He has also introduced a number of new initiatives and working practices, including: Time out For Safety; Waste Sampling; four week transport schedule and operating protocols to accommodate the construction regime for Vault 9. Scott implemented infrastructure improvements to foot paths, rail sidings and asset care projects like the renewal of the 11KV project – of which more later!

He has seen the workforce grow in confidence and stature "When we took over at LLWR, the workforce were welcoming but wary. They didn't know what to expect so we adopted a "walk softly" approach. We knew they were competent, what we didn't know was whether they were flexible and up for the challenge. The workforce have certainly proven that they are".

Members of the LLW Team

Today, LLWRs' workforce conducts predictive maintenance rather than reactive, they think outside the box. Where they once perceived a threat to traditional practices they now recognise the development opportunity. They are interactive, working across the different arms of the organisation - operations, projects, design, maintenance and consignor support. Scott says "managing radioactive waste is no different in the UK to anywhere else on the globe, the British culture is just more cautious about change but not here at LLWR".

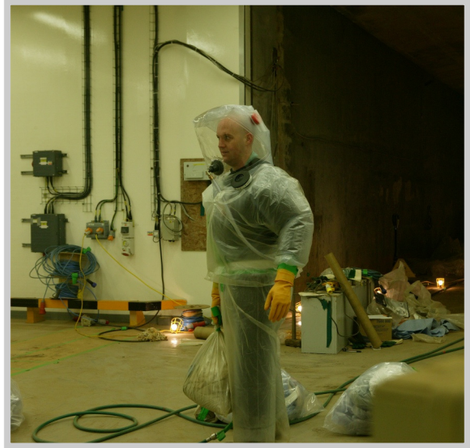
Scott is an American of Finnish decent, he likens himself and the LLWR workforce to the Finnish word 'SISU' which loosely translated means strength of will, determination to persevere. Or, in other words -"Finnish what you start" !

Decommissioning Legacy Facilities

PCM (Plutonium Contaminated Material) decommissioning in full swing.

The PCM Decommissioning Programme is a co-ordinated portfolio of projects covering decommissioning of magazines, maintenance, Hexafluoride (HEX) retrievals and the ultimate demolition of facilities. The programme has witnessed a revitalisation over the past 12 months and today the PCM Project Team work hand in glove with the Operations Team and across various disciplines within the company to provide a fully integrated, flexible approach to successful delivery.

The main scope of the Decommissioning Programme is the decontamination of the internal surfaces (floors, walls, ceilings) of the five remaining Magazines, decontamination of the purpose built retrieval facilities fronting each magazine and removal of the contaminated ventilation systems in preparation for the future demolition of the facilities.



Decommissioning activities inside a PCM Magazine at LLWR Site

With HEX drum retrieval operations completed and the PCM Decommissioning and PCM Maintenance in progress, the Programme is well underway but it has not been without its challenges - not least, the 'inherited conditions'. However, through the application of sound waste management principles, engaging company wide expertise and applying innovative approaches the Team have prevailed and managed to overcome a number of major issues:

CHALLENGES	INNOVATIONS
Contaminated Bitumin flooring surfaces.	Sample, segregate and characterise as LLW (Magazine 4 100% LLW).
Size reducing empty contaminated drums.	Introduction of monitoring, segregation and several cutting techniques to reduce PCM waste.
Decontamination of Magazine internals surfaces and confirming the depth of contamination.	Sampling and statistical analysis to determine waste categorisation. Concrete floor and wall floor shaving equipment deployed by experienced operatives. Multi incremental sampling.
Decommissioning and removal of Magazine Retrievals Facilities Ventilation Systems	Supply chain engaged to introduce innovation.
Operatives heat stress.	Computerised monitoring of operatives core temperature.
Integration of LLWR and Contractors.	Implementation of a contractors training checklists. Engagement of a dedicated Project Engineer as a single point of contact.

With a new found appetite for continuous improvement the team are constantly looking for better, quicker, safer ways to implement the PCM Decommissioning Programme.

Partnering Safety with Teamwork

Developing strong relationships with contractors is the key to successful teamwork and delivery.

Teamwork is a key element for the safe delivery of any project. So from the outset the PCM decommissioning project has worked to build a strong team culture. To develop this relationship further LLWR and Amec arranged a joint team building away day before the project started. The key LLWR players up to this point have been Contractor Management, Project Delivery, Safety working with main contractor Amec and their sub contractor PC Richardson.

PCM decommissioning project

A two –week training schedule was developed and delivered for Amec and PC Richardson by LLWR personnel to enable LLWR to provide a firm structure and guidance on all site procedures, site expectations, human performance behaviours and familiarisation of the physical scope of the project eg Magazine areas.

Hazards on the project include Radiation, HAV, Noise, Manual Handling, Heat Stress and Work at Height. The challenges were mitigated through risk assessments with input from the whole team.

The Safety Forum continues to be a strong platform for everyone, (LLWR and Contractors) to gather together keeping communications open and focusing on safety and safe delivery as a top priority. Amec and PC Richardson's willing attendance and interaction with the committee are vital to keeping a positive and productive relationship.

Re-shaping LLW Operations

Over the past 25 years, waste disposal operations have changed immensely.

During the late eighties and early nineties significant changes to low level waste (LLW) operations were introduced at the Repository, with a move from tumble tipping in the trenches to containerised waste disposal in vault 8. The period also saw the introduction of waste compaction and grouting of containers, the closure of the trenches with an engineered interim capping layer and the upgrading of the leachate management system and construction of the marine holding tanks and discharge pipeline.

Since the introduction of containerised waste disposal LLWR have safely and successfully received, grouted and disposed of some 10 000 LLW containers with the grouting facility routinely processing over 700 containers per year. There have also been several large items (too big to containerise) of waste e.g. Heat Exchangers (measurement) disposed of in vault 8 by concreting them in-situ.

We are now entering a new phase of operations, with major changes once again taking place. Vault 8 is almost full and construction of vault 9 is complete. To maximise the lifespan of the LLWR site, work has been ongoing to introduce new waste services to minimise the amount of waste disposed of at LLWR. Through this new approach we are able to assist waste generators with the implementation of the waste hierarchy – prevent, minimise, reuse, recycle, dispose – and prolong the life of a valuable national asset.

This change in practice has had an impact on the LLW operations team with grouting and disposal reducing from 700 to around 300 containers per year. As a result the team are taking on various new roles across the site and becoming very much a site operations team. These new roles include supporting non-compactable waste monitoring (ISOCS) and assumed LLW monitoring and maintenance of the new trench cap surface water drain. In addition the team have taken on responsibility for site gritting and snow clearance and some of the environmental sampling. Also, as the size of the PCM decommissioning team reduces the LLW team have taken over the loading and movement of PCM drums to Sellafield and are currently training to take over magazine room 9 operations and other PCM support tasks. The team are also involved in the operational trials and development of new re-usable waste containers. A maintenance facility is being constructed in B726 for the re-usable container fleet and the support to this facility will also form part of the teams changing and expanding workload.

The flexibility and adaptability of team members rising to the changing nature of the business has not only provided personal development opportunities but helped secure a long term future for both the site and employees.

Spotlight on Excellence

This Edition : Gary Cunningham, Operations and Maintenance Manager

Gary has a first class degree in Chemistry and is a member of the Royal Society of Chemistry with over 18 years experience in the nuclear industry. During that time he has spent 16 years on the Sellafield site, initially as a management trainee working as a development chemist then 14 years of operational experience primarily in the low active effluent plants on site holding positions of operational support, shift co-ordinator and manufacturing manager. This work involved running and managing plants in all aspects of their lifetime from commissioning, operational and decommissioning phases. The last 2 years he has held the position of Operations and Maintenance Delivery Manager for LLWR.

Gary and his team are responsible for the operations and maintenance of the site in both the LLW and PCM facilities. They are responsible for the day-to-day management of the site activities as well as supporting the multi-disciplined projects and their teams.

With respect to non work related topics Gary has represented England and Great Britain for touch rugby and has played rugby and American football at local level.

Gary enjoys spending time with his family (wife and two daughters) and other outside interests include playing squash, 5 a side football and golf.