

Report to the West Cumbria Sites Stakeholder Group

Thursday 7th April 2011

Reports are issued every six months prior to the West Cumbria Sites Stakeholder Group main scrutiny meetings and are available on the WCSSG website: www.wcssg.co.uk

Representatives from Sellafield Ltd attend the WCSSG meetings and will be happy to respond to any questions.

Since the last meeting of the WCSSG, there have been a number of changes to the Sellafield Ltd Executive including the appointment of Todd Wright as Managing Director. Bill Poulson has returned to the United States to take up a broader corporate role with NMP parent company URS, where he will oversee a wide range of major projects. Bill was Managing Director of Sellafield Ltd, during which time he guided the site through an unprecedented change and delivery programme.

George Beveridge remains as Deputy MD, providing the required stability at the top level of the organisation, together with an in-depth knowledge of the site's operations.

George has been joined by fellow Deputy MD, Doug Cooper, formerly President and General Manager at the Yucca Mountain repository project in Nevada.

Todd will sit on the West Cumbria Sites Stakeholder Group (WCSSG) representing Sellafield Ltd along with Iain Irving, Stakeholder Relations Director.

Other changes to the Sellafield Ltd executive are the appointments of Kliss McNeel, who has taken over from Fran Williams as Environment, Health, Safety and Quality (EHS&Q) Director; Jim French, who will replace Russ Mellor in the role of Director, Decommissioning; Dawn James, will take up the role of Chief Engineer, taking over from Tony Green; and Tom Foster, who will take up the mantle from Mike Johnson as Waste and Effluent Disposition Director.

SIGNIFICANT MILESTONES:

Sellafield Ltd has achieved a number of significant milestones since the last scrutiny meeting in October 2010, including:

- Over 188m³ of active silo liquor safely transferred by the Liquor Activity Reduction (LAR) team, completing the third of their Performance Based Incentive (PBI) milestones.
- Plutonium Contaminated Material (PCM) processed ahead of schedule
- Sludge Retrieval kit installed in historic storage pond to enable the start of bulk sludge retrieval in one of the priority decommissioning projects at Sellafield.
- Sellafield Product and Residue Store (SPRS) has entered active commissioning phase six weeks ahead of schedule.
- Primary Separation Plant, High Active South Outer (HASO) cell decommissioning project completed.

BUSINESS IMPROVEMENTS:

INTEGRATED CHANGE PROGRAMME:

The Integrated Change Programme has undergone a re-focus over the last six months following peer reviews in Oct/Nov 2010. An integration model has been established and dedicated Integration Managers assigned to 3 delivery-focused programmes, in order to link activities and obtain the benefit from the combination of a number of change programme activities.

SAFETY & SECURITY

Safety

Accident performance

There have been fewer lost time accidents this year compared to the same time last year (30 Lost Time Accidents, (LTA's) this year compared with 44 last year). Reporting of Injuries, Diseases & Dangerous Occurrences Regulations (RIDDOR) reported injuries remains the same as last year - currently 24 have been reported.

THORP rollback

The working areas within operational plants at Sellafield are divided into radiologically controlled and non-radiologically controlled areas. The rollback initiative is aimed at declassifying those controlled areas that do not require that

level of access control. This will make working practices more efficient. Thorp rollback started on 12th December 2010 and is delivering significant reductions in time spent crossing from one area to another.

The next stage involves detailing all the learning from the Thorp pilot and examining other rollback opportunities elsewhere on site.

Performance Evaluation Board Reviews:

The Performance Evaluation Board (PEB) reviews have commenced. They are an integral part of the Sellafield Independent Assurance Framework and supplements existing assurance activities.

The objective of the PEB is to provide an independent oversight of plants and projects using performance-based field evaluations to provide graded assessments of operational safety and reliability as the basis for driving systematic improvements in disciplined operations.

To date, two evaluations have been completed with a third due to begin in early March. The programme for the next five years has been outlined and the first 12 months of this programme has been agreed with the Managing Director.

Peer to Peer observations:

This year Sellafield Ltd employees have recorded almost 27,000 observations. These observations have been completed by almost 5,500 employees.

Since the last scrutiny meeting in October 2010, the following incident reports have been published in the Sellafield newsletter.

- **October 2010 newsletter:** Following a delivery of new breathing air (BA) cylinders, Sellafield Fire and Rescue Service personnel were tagging, pressure checking and adding protective jackets to the cylinders before placing them in storage.

On processing the 34th of 39 new cylinders an incident occurred which resulted in some of the pressure in the cylinder being released, causing the individual holding it to lose control of the cylinder. That individual suffered a fractured arm as a result of the cylinder ricocheting back and striking him.

The injury is classified as a major injury under RIDDOR and is therefore reportable.

- **October 2010 newsletter:** Soil samples have been abstracted from areas immediately below and adjacent to potential contamination sites across the full reprocessing ventilation pipework areas.

The results from the soil samples are returning, and initial indications show elevated soil contamination in two locations. All other soil samples show no adverse contamination levels.

One compound soil sample shows activity levels of up to ~15,000 Bq/g beta/gamma and up to ~3000Bq/g alpha across an estimated surface area of two square metres. The other sample area is only just above background levels and of similar surface area.

The system considered to be the source of the activity has been inspected and no leaks have been detected, and all of the joints on the system have been replaced.

The event has been classified as below the International Nuclear Event Scale (INES)

- **October 2010 newsletter:** During a plant inspection in the Magnox complex in January 2010, a very small amount of liquor was seen at the end of a condensate sample line.

This was reported in the Newsletter at the time. An investigation was launched and checks were carried out in the immediate area.

This involved sub-surface soil sampling that revealed a small area, approximately two metres squared, with elevated activity levels.

Subsequent chemical analysis has now suggested total cumulative activity in excess of the levels specified in the 1999 Ionising Radiation Regulations and appropriate regulators have been informed.

The contamination detected in sub-soil samples was buried and, as such, did not present an inhalation or ingestion hazard and could not have come into contact with personnel employed in the area.

Similarly, there were no off-site consequences. Further analysis of the soil samples is underway.

- **December 2010 newsletter:** Evidence of contamination was found in an area of the Sellafield Fuel Handling Plant.

The likeliest source of the contamination is a small amount of liquid

escaping containment from a flask passing to an area with higher protective controls.

The area involved has poor access and the risk of personal contamination is low but an investigation is underway.

Subsequent analysis of the area has found that the activity is greater than 10 per cent of the reporting criteria specified in the Ionising Radiation Regulations 1999 and therefore warrants internal investigation.

- **December 2010 newsletter:** A programme of investigations into the asset condition of civil structures across the Sellafield site has been underway for some time. As part of that programme, inspection and monitoring has been carried out on a pipebridge. Within the pipebridge are stainless steel pipelines that provide primary containment for carrying materials. The pipebridge also has a stainless steel drip-tray, which guides leakage to a sump system for detection.

The monitoring was carried out on the drip-tray. This programme involved the introduction of coloured dye, which revealed a drip point beneath the pipebridge structure. As a result, and to allow further investigation, the re-start of Magnox reprocessing operations has been paused and will not commence until the New Year.

The material carried by the pipebridge is highly and medium active liquor. The primary source of containment, the stainless steel pipeline, has not been compromised and it was not in use at the time. A provisional rating of level 1 on the International Nuclear Events Scale has been applied.

Security

Since the last report the security priorities for Sellafield Ltd continue to be focused on the further development of Counter Terrorism (CT) exercising. The security regulations place a requirement on operators to carry out an annual CT exercise.

The second CT exercise for 2010 (live-play) was carried out on 13 October 2010 and observed by the security regulator, Office for Civil Nuclear Security (OCNS) and other government agencies.

The Police Control Centre was originally established in the early 1990's and has been subject to regular upgrade in keeping with site expansion. It was identified in 2008, that facilities would reach their operational capacity in 2011. A £3m project was completed in January 2011 to provide a new Police Control Centre,

with state of the art systems. The facility will satisfy the medium term requirements.

OPERATIONAL PERFORMANCE

Sellafield MOX Plant

Since the NDA announcement of a new contract with the Japanese Utilities, SMP has made good progress. The work to introduce a new rod fabrication line is on schedule, as is the 'campaign change' to prepare the plant for making the new design of fuel. Initial trials to demonstrate that SMP can make fuel to the required standards have begun (again, on schedule) and are progressing well. We have worked closely with INS and with Japanese customers to promote a strong working partnership.

Magnox Reprocessing

Magnox Reprocessing underwent a scheduled outage from October 2010 to December 2010 to enable planned maintenance in the reprocessing facilities. The outage completed on schedule and preparations were underway for plant re-start, including decanning the first batch of fuel for reprocessing when testing of the collection tray beneath the primary containment in the main pipebridge between the Magnox Reprocessing Plant and HA Evaporation and Storage plant indicated a potential fault. In response to the results of the test, which is part of the ongoing inspection of the supporting infrastructure, the conservative decision was taken to not continue with the planned re-start.

Further detailed inspection has identified a fault in the stainless steel tray. In order to return the facility to its design intent; the work to remove residual debris from the tray has been undertaken and the preparatory work to enable tray repair is ongoing. In response to this outage, the Magnox plants have brought-forward the major, planned outage in June/July 2011 and delivered that workscope in the current outage, including the Physical Inventory Take (PIT) as part of our obligations to Euratom. The year to date decanning figure of 232 te is unlikely to be increased before the end of the financial year. Clearly this increases the challenge of completing the Magnox Operating Plan and, during this outage, a range of improvement activities have been implemented to increase the throughput, availability and to reduce risks to future operations.

Elsewhere in the Magnox area, the teams have delivered significant improvements in AGR fuel dismantling rates and AGR waste exports. There has been a significant increase in the number of skips of legacy fuel that have been washed and prepared for reprocessing and SIXEP has also supported the Liquor

Activity Reduction project in Magnox Swarf Storage Silo. In both cases there has been no increase in pond water activity as a result of the extra work delivered.

Sellafield Ltd has been working in partnership with the Magnox Reactor stations and the Regulators to increase fuel transfers to Sellafield for reprocessing and this has been successful. Fuel deliveries are ahead of the target figure and over 570 te of fuel has been safely transported to Sellafield so far this financial year.

The application for the Licence Instrument from NII to enable defuelling of Calder Hall is scheduled for the end of March 2011 and defuelling will commence in the 2011/12 financial year ahead of the Magnox Operating Plan requirements.

Thorp Reprocessing

The Thorp stretch financial target of 300 tes was reached on 31st January 2011. Thorp shearing has presently achieved 336tes against an original baseline target of 200tes. The plant is being prepared to restart shearing on AGR fuel week commencing 26th March.

A successful inspection of the High Active Evaporator C was completed in early January 2011 which enabled continued support to Thorp operations. This inspection process remains a key element of continued Thorp operations and is governed by the requirements of a regulatory Licence Instrument until the availability of the new Evaporator D presently under construction.

The programme of work referred to in the October Sellafield Ltd report to the WCSSG, investigating and chemically washing the High Active pulse columns in Thorp Chemical Separation Plant proved sufficiently successful to demonstrate recently a sustained operational rate of 5te per day - which has restored the original design rate.

Waste and Effluent Disposition

We have successfully closed the second Improvement Notice, associated with persons organising work, issued by HMNII following the Cooling Water Disruption event in January 2010. All issues were addressed allowing the Improvement Notice to be closed within the required timescale.

During February 2011 the Safety Case was approved by the HALES Management Safety Committee for active commissioning of HAST 17 for use as a receipt and storage tank. This is a key milestone for supporting continued HAST Operations and the overall HAST Strategy.

Evaporator A was successfully restarted in November 2010 after being shutdown following discovery of a penetration in a lute wash line. A significant amount of work was completed in support of the Evaporators return to service. Evaporator

B remains shutdown while the scope of work to support future operation of the evaporator is developed.

WVP production has been significantly impacted throughout the year due to a series of plant issues and faults. Excellent work has been done to work through the issues but, due to recent blockages within the HAL Feed route system, current forecasts show that the year end out turn will be approx. 1202 TeU (equivalent vitrified) against a contract baseline target of 2285 TeU. Line flushing and process testing has got the plant to a position where a limited return to HAL feed is credible. A project team to address HAL line blockages has been mobilised as a key mitigation in case chemical washing in the near future is required.

The WVP Line 3 Shield Door outage continues to progress to schedule with a forecasted completion date in August 2011. Two Licence Instruments associated with this project were received from the regulator ahead of schedule, in November 2010 and the final Plant Modification Proposal for Shield Door Implementation was submitted to HMNII during February 2011.

Vitrified Residue Returns continue to progress with the first Flask of the second Japanese Return being loaded and exported to the marshalling area at the start of February 2011. Work is currently ongoing in preparation for loading of the second and third flasks of this second Japanese Return.

As reported in previous WCSSG reports, in April 2010 during waste handling operations four LLW waste bags were released from Sellafield to the Lillyhall landfill site that were above the acceptance criteria for that site. All four bags were retrieved within a few days and an investigation by the Environment Agency (EA) and the Department for Transport (DfT) is currently ongoing. Sellafield Ltd conducted an investigation which was completed in August 2010 and the actions from that investigation are being implemented. The Improvement Notice issued in July 2010 by the DfT has been successfully closed out. The programme of work to improve and re-start the bag monitoring process is scheduled to be completed by November 2011.

WAMAC has continued to support site operations.

Metal recycling is progressing extremely well with 1537 te achieved so far this year. 247 te have been dispatched off the Sellafield site, mainly to the Studsvik recycling facility at Lillyhall, this relates to approximately two to three shipments weekly, which is the best ever achievement in this area.

The Waste Encapsulation Plant (WEP) has moved to 24 hr working to support THORP's acceleration target requirements. All other plants within encapsulation and effluent management group are meeting site requirements.

DECOMMISSIONING

Pile Fuel Storage Pond - PFSP

Real and visible progress is now being achieved in the PFSP with the installation of the 2-tonne Sludge Hood (a bulk sludge movement tool). Sustained performance has unfortunately been frustrated by severe winter conditions and some equipment limitations; however operations are very much underway, retrieving sludge material into modern stainless steel containment.

First Generation Magnox Storage Pond - FGMSP

Continuing risk reduction through the isolation of redundant effluent and sludge pipelines in the FGMSP is an ongoing programme with several key operations now complete.

Progress has also been visible in preparing high hazard waste buffer vessels for the Sludge Packaging Plant, which will receive the FGMSP sludge wastes. As well as the final roof concrete pour being completed, the assembly of the first of three large 33m long, 240 tonne, stainless steel vessels has commenced on site.

There has been substantial schedule delay impacting the FGMSP D-Bay Operations due to additional necessary trials reassessing the application and sealing technique intended for use in the legacy bay. These extra trials are required after early performance issues identified in scheduled testing. Successful engagement with regulatory stakeholders is also essential to successful completion.

Magnox Swarf Storage Silo - MSSS

Liquor Activity Reduction associated with the mobile inventory within the facility has now exceeded its stretch target exporting 180m³ or over 1100 TBq of radioactive liquor before the end of this financial year. This is a significant risk reduction step for this high-hazard facility and will underpin many years of future operation.

Five out of six new containment pumping systems have now been successfully installed in the older parts of the facility, substantially improving the existing containment systems. The final installation is estimated for completion later in August 2011.

Difficult mechanical handling challenges have been tackled in trials of waste movements for the Silos Direct encapsulation Plant.. Underpinning of the treatment technology of the MSSS wastes is crucial for ultimate hazard reduction

Pile Fuel Storage Silo

Contracts for the Engineering, procurement and Construction of the major civil works and the provision of the major site crane for facility waste retrieval are now in the final stages of award.

The superstructure construction safety case, a significant and challenging legal submission, has now been prepared and ready for Regulatory endorsement. This should be endorsed by the end of March 2011.

Site Remediation and Decommissioning Projects – SR&DP

There has been a very visible change in the Sellafield skyline as the replacement Separation Area Ventilation (SAV) discharge stack is being completed. This 124m chimney will replace the existing primary ventilation for a number of important facilities and is a positive and key enabling step in ultimate hazard reduction for LP&S and the Sellafield site.

Severe weather in December has posed a considerable challenge for the care and maintenance teams in the legacy facilities. Water ingress and problems associated with sustained freezing conditions have been tackled as they have arisen.

Windscale

On Pile Chimney No1 there is important ongoing work associated with 'headgear' inside the chimney. This work will lower the redundant structure to the ground ready for dismantling.

Some activities in these areas of decommissioning are being slowed because they have little risk of serious consequence. This permits priority to be applied to the high hazard LP&S facilities.

SOCIO ECONOMIC ISSUES

Following the Coalition Government's decision to abolish Regional Development Agencies (RDA's) by April 2012, the North West Development Agency (NWDA) is working closely with partners in the region to manage the transition of its responsibilities. The RDA's will be replaced with Local Economic Partnerships (LEPs).

The North West has so far secured four LEPs in Cumbria, Cheshire, Greater Manchester and Liverpool and George Beveridge, Deputy Managing Director at Sellafield Ltd will Chair the Cumbria LEP.

Sellafield Ltd, along with its funding partners NMP and NDA, are working closely with the local authorities and regeneration organisations, to re-align priorities for socio-economic development in West Cumbria through Britain's Energy Coast Investment plan.

Sellafield Ltd's dedicated team of STEM ambassadors continue to provide an on-going varied programme of educational events to those schools in our travel to work area. By working in partnership with external education providers and businesses within our local supply chain including AMEC, Babcock, UCLAN and NNL, students are engaging with employees from a diverse range of disciplines and backgrounds.

This co-ordinated approach to delivering education support ensures students, teachers and parents receive tailored advice and support from a team of professionals all working towards the same aim of helping students reach their full potential.

Sellafield Ltd, working alongside Cumbria County Council, Cumbria Constabulary, local parish councils, the Highways Agency, Copeland Borough Council and others as part of the community initiative 'Cold Fell Action Group' has helped develop a code of conduct for driving on Cumbrian Fell roads. The action group highlighted the need for a reduction in speed limit to the Highways Department and after public consultation this proposal was upheld. The speed limit is changing to 40mph in March and new signs funded by Sellafield Ltd have been erected to indicate the change.

FORWARD PROGRAMME:

The overarching goal moving forward is to 'deliver with confidence'

Sellafield Ltd is making progress on its challenging goal of accelerating high hazard and risk reduction and as always the key focus in achieving those goals has been to not compromise safety in any way, shape or form. Adding to that, one of the key goals moving forward into the new financial year is to improve upon and revitalise Sellafield Ltd's nuclear safety achievements.

Operationally moving forward the goals are to achieve the Legacy Ponds and Silo's milestones, to improve Magnox and WVP performance and to keep Evaporator D on schedule and budget. Our workforce is instrumental to us achieving this and through our mobility process we want to take our employees along a change journey through leadership and training, development and effective communication.

We promised at the last WCSSG meeting that we would involve our stakeholders in developing the public facing document which describes the Performance Plan.

Sellafield Ltd is working with a team of stakeholders to do just that, so that the community will have a 'fit for purpose' tool to enable scrutiny of our performance moving forward. That document is due to be published this Summer.

While there are still many challenges for us to face I am confident that with safety paramount in our minds and working in partnership with our parent body organisations, our workforce and our stakeholders we can overcome them and confirm ourselves as the world class business we are striving to be.

Dr. G Todd Wright
Managing Director
Sellafield Ltd

List of Acronyms:

AFO	-	Authorised firearms officers
AGR	-	Advanced Gas Cooled Reactor
ASW	-	Agency Supplied Worker
BERR	-	Business Enterprise and Regulatory Reform
BNGSL	-	British Nuclear Group Limited
BOC	-	Bottom Outer Coil
CAGR	-	Civil Advanced Gas Reactor
CHPP	-	Combined Heat and Power Plant
COBRA	-	Cabinet Office Briefing Room 'A'
COGEMA	-	French government owned nuclear group
CNC	-	Civil Nuclear Constabulary
CSW	-	Contractor Supplied Worker
CT	-	Counter Terrorism
DACR	-	Days Away Case Rate
DTI	-	Department of Trade and Industry
EAC	-	Endorsement for Active Commissioning
EARP	-	Enhanced Actinide Removal Plant
E&EP	-	Effluent and Encapsulation Plant
EHS&Q	-	Environmental Health, Safety and Quality
EPS	-	Encapsulation Plant Store
EPS2	-	Encapsulation Plant Store 2
FCRT	-	Fuel Channel Retrieval Tool
FHP	-	Fuel Handling Plant
HA	-	Highly Active
HAL	-	High Active Liquor
HALES	-	Highly Active Liquor Evaporative Storage
HANO	-	Highly Active North Cell
HAST	-	Highly Active Storage Tank
HAW	-	Highly Active Waste
HLWP	-	High Level Waste Plant
HMIC	-	Her Majesty's Inspectorate of Constabulary
HSE	-	Health & Safety Executive
ILW	-	Intermediate Level Waste
INES	-	International Nuclear Event Scale
INS	-	International Nuclear Services
LLW	-	Low Level Waste
LLWR	-	Low Level Waste Repository
LRQA	-	Lloyds Register Quality Assurance
LTA	-	Lost Time Accident
LTP	-	Life Time Plan
MA	-	Medium Active
MAC	-	Medium Active Concentrate
MER	-	Magnox East River
MBGWS	-	Miscellaneous Beta Gamma Waste Store

MOX	-	Mixed Oxide
NDA	-	Nuclear Decommissioning Authority
ND&MPG	-	Nuclear Decommissioning and Major Project Group
NII	-	Nuclear Installations Inspectorate
NOK	-	Nordostschweizerische Kraftwerke AG - Swedish Utility
NM	-	Nuclear Material
OCNS	-	Office of Civil Nuclear Security
ORM	-	Other Radioactive Material
ORSE	-	Organisation, Review and Self Evaluation
OSHA	-	Occupational Safety & Health Administration
PACSR	-	Pre-Active Commissioning Safety Report
PCM	-	Plutonium Contaminated Material
PF&S	-	Plutonium Finishing and Storage
REF	-	Residues Export Facility
RIDDOR	-	Reporting of Injuries, Diseases & Dangerous Occurrences Regulations
QA	-	Quality Assurance
ROV	-	Remotely Operated Vehicle
SAV	-	Separation Area Ventilation
SDP	-	Silos Direct Encapsulation Plant
S&DNSC	-	Sellafield and Drigg Nuclear Safety Committee
SMP	-	Sellafield Mox Plant
SOCPA	-	Serious Organised Crime and Police Act
SPP1	-	Sludge Packaging Plant 1
SPRS	-	Sellafield Products Residues Store
THORP	-	Thermal Oxide Reprocessing Plant
TPFL	-	Thorp Plutonium Finishing Line
TRC	-	Technical and Residues sub committee
UKAEA	-	United Kingdom Atomic Energy Authority
UKSO	-	UK Safeguards Office
VIT	-	Vitrification
VPS	-	Vitrification Product Store
WANO	-	World Association of Nuclear Operators
WCDA	-	West Cumbria Development Agency
WCDF	-	West Cumbria Development Fund
WCSSG	-	West Cumbria Sites Stakeholder Group
WEP	-	Waste Encapsulation Plant
WPEP	-	Waste Packaging and Encapsulation Plant
WTC	-	Waste Treatment Complex
WVP	-	Waste Vitrification Plant