



British Nuclear Group Integrated Strategy for Sellafield
Stakeholder Workshops

9th February 2006

Production Operations

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British Nuclear Group	Table of Contents

1 Overview of Process

Between 8th and 10th February 2006, Westlakes Scientific Consulting Ltd facilitated on behalf of British Nuclear Group, 3 one day workshops involving British Nuclear Group technical staff and stakeholders invited by British Nuclear Group, as part of the Integrated Strategy for Sellafield Stakeholder consultation process.

Each of the 3 one day workshops followed a similar format:

- An introduction by WSC and British Nuclear Group
- Presentations by British Nuclear Group staff
- Questions from stakeholders to British Nuclear Group staff
- Stakeholder syndicate sessions facilitated by WSC
- An overall plenary session with simultaneous production of a summary note document.

Material from all of the above is presented in this photo report document. The presentations from British Nuclear Group are here presented as they were delivered. Questions from stakeholders from British Nuclear Group are here presented as they were noted down; stakeholder syndicate exercises are here presented as they were noted down by facilitators; and the summary note document is here presented as it was agreed on the day by stakeholders.

Of special note is the photographic record of stakeholder workshop syndicate exercises facilitated by WSC. These are presented in this report in the form of exact photographic facsimiles of the outputs of the syndicate sessions. They represent the view of all members of the syndicates as expressed at the time, and any corrections on the record of the syndicate sessions were agreed by the stakeholders concerned.

The letter from British Nuclear Group inviting stakeholders to attend these workshops and lists of stakeholders who did attend each of the three days are given in appendices to this report.


09 February 2006	Integrated Strategy for Sellafield Stakeholder Engagement
British Nuclear Group	Overview of Process

2 Introduction by WSC and British Nuclear Group to each workshop


**Integrated Sellafield Site Strategy
 Stakeholder Workshops**


Clean-up - 8 February 2006
 Production Operations - 9 February 2006
 Waste Management - 10 February 2006




Aims
 To identify issues associated with the strategy streams that are part of the development of the integrated site remediation strategy, which stakeholders consider key to decision making, and why they consider them to be significant.

Objectives

- To inform and explain
- To clarify
- To deliberate and discuss
- To identify issues - and reasons
- To record




The Process

Presentations by BNG
 Explanation and clarification BNG staff available all day
 Discussion and deliberation
 Syndicates and plenary session
 Summary report at end of today
 Photo report soon after




Ground Rules

Chatham House Rules - views expressed will not be attributed to anyone

Please speak one at a time

Please switch off mobile phones and pagers - urgent calls

No wrong or right answers

Respect all points - and people

Any further points or comments you would like to make go on a 'catch-all' board




Housekeeping

Introductions to other people in the room

Fire exits

Refreshments - lunch next door
 tea and coffee available all afternoon next door

Facilities

Introduction to the morning sessions




Presentations by BNG staff

Purpose - to explain each area in some depth and in context

Space for questions after each session

BNG staff here all day

Make notes!



09 February 2006	Integrated Strategy for Sellafield Stakeholder Engagement
British Nuclear Group	Introductions

 **British Nuclear Group**
Intelligent nuclear clean-up

Syndicate Sessions

To identify the key issues which you consider as arising in each of the areas

Facilitators here to record your views

Any other issues - capture on 'catch-all' sheet

What are the issues?

Why are they important?



 **British Nuclear Group**
Intelligent nuclear clean-up

Syndicate sessions 13:00 - 16:15

3 hrs 15 mins. to achieve this for each area

tea and coffee available all afternoon

Plenary sessions at 16:15

Summarise results

Have we missed anything?

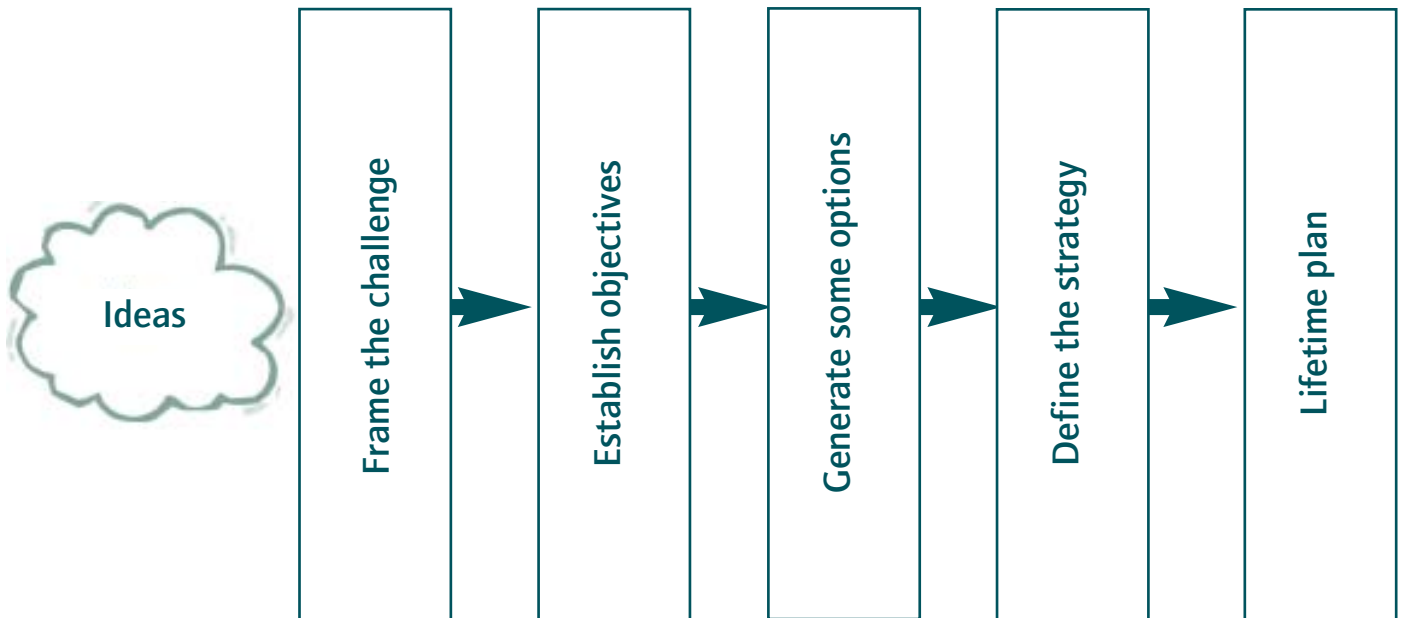
Record on to summary document available today

Forward look and close



09 February 2006	Integrated Strategy for Sellafield Stakeholder Engagement
British Nuclear Group	Introductions

Developing Sellafield Site Integrated Strategy



09 February 2006	Integrated Strategy for Sellafield Stakeholder Engagement
British Nuclear Group	Introductions

Integrated Strategy for Sellafield



To provide an understandable focus for key activities the work scope has been compiled into phases which represent significant changes in the future life of the site. This overall programme for Sellafield extends until 2120.

Passivation – Clean-Up

Passivation – Clean-Up is the phase in which the major hazards and environmental risks on the Sellafield Site are reduced substantially. This includes the waste retrieval operations from Legacy Ponds and Silos and the ongoing reduction in Highly Active Liquor (HAL) stocks in line with regulatory requirements.

During this time, the majority of the waste on the site will have been retrieved, immobilised, packaged in modern containment and held in modern stores where it can be monitored and retrieved. Work to scope the extent of contaminated land will be completed and options for remediation will be identified.

2005

Passivation – Commercial

Passivation – Commercial is the phase in which commercial operations at Sellafield are completed. Thorp and Magnox reprocessing will have been completed thus honouring existing contracts. The Mixed Oxide (MOX) plant will have completed its operations producing fuel for our overseas customers.

The contracts with our utility customers will have generated considerable revenue, around £9.5bn, which is available to fund clean-up activities.

Consolidation

Consolidation is the phase during which remaining operations, chiefly storage, are rationalised and redundant buildings may be decommissioned to suitable hold points. During this phase we will be taking all opportunities to reduce the site infrastructure to provide simplified, effective services at significantly reduced costs. A simpler, structured, prioritised programme of appropriate decommissioning will be completed before a quiescent hold point is reached.

Quiescent

Quiescent is the phase during which the only significant activities are associated with the safe and secure storage of materials, pending the availability of final disposal routes and decisions on the site end point. We will minimise the cost at this time by deploying safe, simple and effective solutions to interim waste storage through effective waste sentencing and packaging and use of low maintenance facilities. We will seek to restrict the duration of this phase as much as possible in order to minimise the potential loss of key skills.

Restoration

Restoration is the final phase in which wastes are exported to the Intermediate Level Waste (ILW) and High Level Waste (HLW) repositories. For the purpose of this Lifecycle Baseline (LCBL) it should be noted that UK-owned Plutonium and Uranium is assumed to remain in indefinite storage at Sellafield. The products of reprocessing and stored fuel will be removed, the final stages of contaminated land addressed and the site cleared to an agreed end point.

09 February 2006	Integrated Strategy for Sellafield Stakeholder Engagement
British Nuclear Group	Introductions

3 Production Operations – 9th February 2006

3.1 Documentation provided

- Agenda
- Presentations by British Nuclear Group made to stakeholders
- Reprocessing of Magnox fuel
- Oxide Fuel Reprocessing
- Manufacture of Mixed Oxide Fuel
- Questions from stakeholders recorded by facilitators
- Introduction by WSC to the stakeholder syndicate
- Outputs from stakeholder syndicate sessions recorded by facilitators and agreed by stakeholders
- Miscellaneous comments recorded from stakeholders on “catch-all” board
- Summary document produced at plenary session at close of day.

3.2 Introduction to the stakeholder syndicate workshops

The audience was divided into three syndicates of approximately equal size, each facilitated by WSC. Each syndicate was given the same task to complete. Syndicates were asked to:

- Firstly identify the key issues which they felt arose out of the areas presented by British Nuclear Group technical staff;
- Secondly to identify the reasons that they felt those issues to be important.

It was stressed that there were no right or wrong answers, that lay perspectives were especially valued and that consensus in the syndicates was not being sought, the exercise was to report the plurality and diversity of opinions.

09 February 2006	Integrated Strategy for Sellafield Stakeholder Engagement
British Nuclear Group	Production Operations

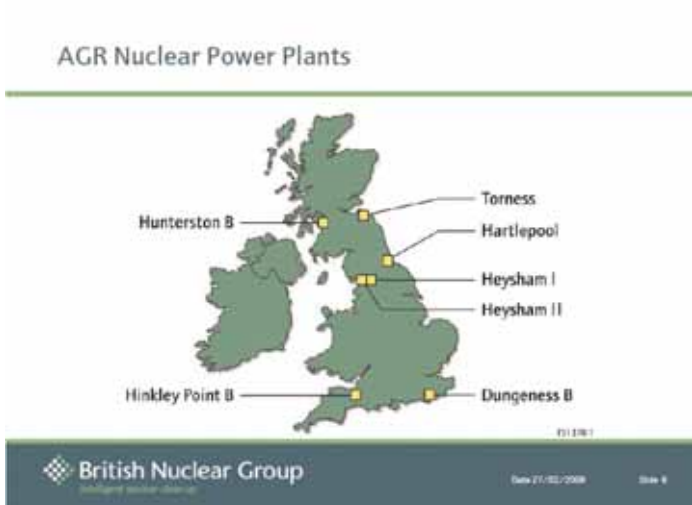
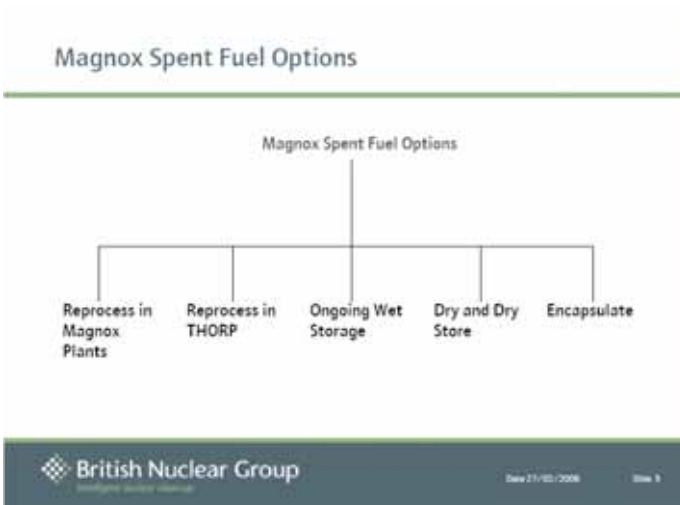
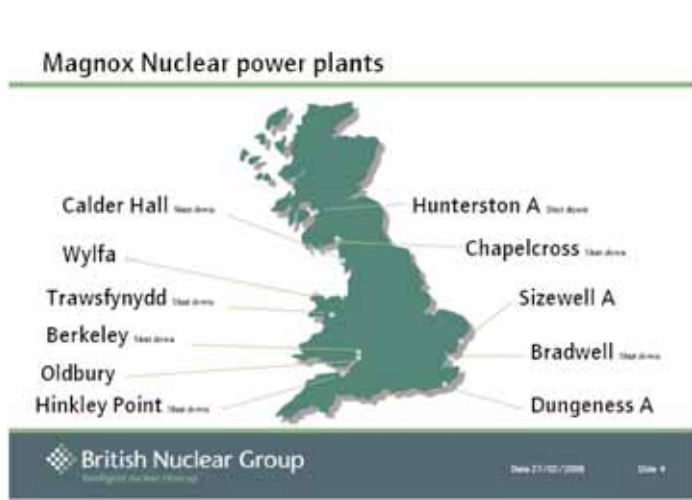
AGENDA FOR STAKEHOLDER WORKSHOP ON PRODUCTION OPERATIONS

WESTLAKES RESEARCH INSTITUTE, WHITEHAVEN, CUMBRIA

9 FEBRUARY 2006

0900-0930	Coffee and registration
0930-0935	Introduction, housekeeping and workshop ground rules - Westlakes Scientific Consulting
0935-0950	Welcome from British Nuclear Group to include brief overview of the Integrated Strategy for Sellafield
0950-1000	Welcome to morning session from Westlakes Scientific Consulting. Each of the presentations will be followed by a short period for questions for clarification:
1000-1040	Reprocessing of Magnox fuel
1040-1100	Coffee
1100-1140	Oxide fuel reprocessing
1140-1220	Manufacture of Mixed Oxide fuel
1220-1300	Lunch
1300-1615	Syndicate sessions with facilitation by Westlakes Scientific Consulting. British Nuclear Group staff to be available throughout for questions and clarification
1615-1645	Presentation of syndicate key findings Discussion of key issues arising Assessment of key issues outstanding
1645-1700	Forward look and close

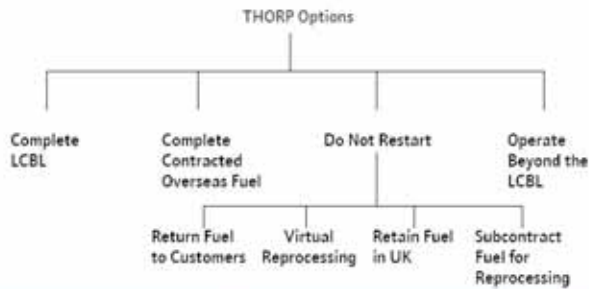
09 February 2006	Integrated Strategy for Sellafield Stakeholder Engagement
British Nuclear Group	Production Operations



09 February 2006	Integrated Strategy for Sellafield Stakeholder Engagement
British Nuclear Group	Production Operations



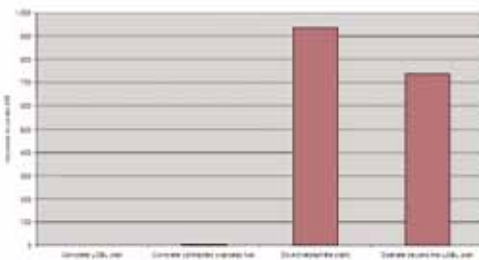
THORP Reprocessing Options



THORP Options Key Issues

- Safety and Environment
- Board of Enquiry Requirements (18 off)
- NII Actions and Requirements (49 off)
- Contract Requirements
- Government Policy
- Facilities for export or return of fuel
- Technical Issues on Wet Fuel Storage

THORP Options Relative Costs



THORP Options Other Considerations

	Stop Now	Operate Beyond Current
Aerial Discharges (micro Sv)	-38	+61
Liquid Discharges (micro Sv)	-5	+12
Date for HAST tank emptying	-3 years	+15 years
Spent fuel for disposal (te)	-3200 to 4000	-4000
HLW canister for disposal	-1000	+4000
ILW drums for disposal	-6800	+4000
Employment man years	-4000	+65,000

Options for Long Term Management of AGR Fuels

- Ongoing wet storage
- Dry storage
 - Vaults
 - Casks
- Conditioning for long term storage
- Direct Disposal

Mixed Oxide Fuel Manufacture Strategic Importance

- UK Policy and British Nuclear Group contracts require return of Plutonium to overseas customers
- SMP provides customers with one option for their fuel
- A number of options exist for UK owned Plutonium
- SMP has some dependence on shared services and infrastructure
- In some scenarios production in SMP extends several years beyond other production operations

Options on Plutonium Management

- Ongoing Storage
 - Plutonium Oxide
 - Plutonium Residues
- Recycle
 - Mixed Oxide - Existing Reactors
 - Inert Matrix Fuel - New Build
- Immobilisation
 - Low specification MOx in SMP - With Barrier
 - New Plant - Without Barrier

SMP Public Consultation

• PA Consulting report after 1st consultation		1997
• 2nd public consultation ends	October	1998
• 3rd public consultation ends	July	1999
• 4th public consultation ends	May	2001
• ADL consultants engaged by DEFRA	April	2001
• 5th public consultation ends	August	2001
• Ministers agree Justification of SMP	October	2001
• BNFL Board Review	October	2003
• MOx Commission Report	June	2004
• ADL Review	June	2005

SMP Public Consultation

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Syndicate Sessions

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What are the issues?

Why are they important?



09 February 2006	Integrated Strategy for Sellafield Stakeholder Engagement
British Nuclear Group	Production Operations



Flipchart output from Production Operations Workshop

ISSUE	MAGNOX	REASONS
* CAN LIFE OF MAGNOX FLEET BE EXTENDED? (8 M.O.P.)		DOESN'T SEEM AT PRESENT TO BE DRIVEN BY NATIONAL ENERGY NEEDS / POLICY. TOLD IT'S BEEN DRIVEN BY ISRAEL - BUT MUCH OF THIS ALREADY ACHIEVED. IT'S OLD TECHNOLOGY BUT COULD BE EXTENDED SAFELY COULD WE MEET OSAR IF WE DID EXTEND THEM?
* LACK OF WHOLE SYSTEMS PLANNING APPROACH ECONOMICS / TOURISM / THE AREA'S FUTURE		THOUGHT IT WAS ALREADY STORED, SEALED AND DELIVERED FUEL / ENERGY MARKET IS VOLATILE - NATIONAL ENERGY POLICY ETC
HOW WOULD THE MAGNOX CLOSURE AFFECT THE POTENTIAL FOR NUCLEAR NEW BUILD?		PERCEIVED POSSIBLE NEED FOR NEW BUILD BUT EXISTING IMAGE OF NUCLEAR IS POOR
OLD SHARED FACILITIES LIMITING PROCESS LIFETIMES		ANCILLARY FACILITIES MAY DRIVE LIFETIMES OF BOTH THORP AND MAGNOX IF NOT MAINTAINED

ISSUE	MAGNOX	REASONS
* MAGNOX OPERATING PLANT SHOULD DRIVE THE SITE STRATEGY		CRITICAL COMPONENT OF SITE OPERATIONS CAN BE UPDATED / REVISED BUT MUST BE MAINTAINED
DRY STORAGE OF MAGNOX FUEL - POSSIBLY AN ALTERNATIVE TO REPROCESSING		GOOD OPTION IN PRINCIPLE, SHOULDN'T BE DISMISSED - BUT NOTE PROBLEMS AT WYLFA - CEBG PAPERS IN 1980s SAID IT WAS FEASIBLE
UNCERTAINTY IN NATIONAL WASTE INVENTORY - DO WE REPROCESS, DO WE STORE?		NEED MORE CERTAINTY TO PLAN PROPERLY
* BPEO		Need to know what the BPEO for Magnox is

ISSUES	OXIDE	REASONS
* IS THORP BUSINESS RIGHTLY PLACED WITH GOVERNMENT / NDA? (also SMPek) (also duty to bring future)		CURRENT POSITION ASSUMES RIS AGAINST FUTURE REPROCESSING BUSINESS - BUT THINGS MAY HAVE MOVED ON IMPLICATIONS OF US OWNERSHIP? SHOULD BE SEPARATE SO THERE IS FINANCIAL / BUSINESS TRANSPARENCY
THERE ARE TOO MANY UNKNOWN'S * NEED FOR AN 'OXIDE OPERATING STRATEGY'		THERE ARE TOO MANY UNKNOWN'S AT THE MOMENT - CURRENTLY IN DANGER OF FORFELOSING OPTIONS
* NEED FOR STORAGE FACILITIES FOR AGR - NO CLEAR PLANS FOR AGR POST-THORP?		IF THORP DOESN'T RE-START, AGR STATIONS WOULD NEED TO CLOSE DRY STORAGE WOULDN'T PRECLUDE REPROCESSING IN FUTURE
* DISPOSAL ROUTES		LACK OF DEFINITION OF DISPOSAL FOR HLW OR IRRADIATED FUEL MANS. STRATEGY IS OPEN-ENDED

ISSUE	OXIDE	REASONS
RETURN OF FUEL TO CUSTOMERS		NEED CLEAR CONTINGENCY ARRANGEMENTS FOR NO-THORP
DUTY TO BRING IN REVENUE		NOT CLEAR HOW HARD BRIG IS TRYING - OR HOW KEEN NDA IS
ECONOMICS		THORP OPERATION CAN BE GOOD FOR W. CUMBERIA & UK plc IF NO THORP BUT FUTURE NEEDS, OTHERS (CEG) PROGRAM CALL THE SHOTS

Flipchart output from Production Operations Workshop

ISSUES	SMP/Pu	REASONS	AS
WHAT'S THE REAL DRIVER FOR SMP?		HELPS EVERYONE UNDERSTAND WHAT'S BEING DONE	
IS THERE ANY POINT IN MOX FUEL IF NO NEW BUILD?		FOR UK - PROBABLY ONLY AS Pu disposition INTERNATIONALLY - IT SEEMS SO	
SOLIDITY OF THE BUSINESS CASE		SOUND BUSINESS CASE SHOULD BE THE DECIDING FACTOR A.D. LITTLE UPDATE?	
SHOULDN'T BE LINKED WITH DECOMMISSIONING		LIVE OR DIE BY BUSINESS CASE	

ISSUES	REASONS	A6
DE-COUPLING COMMERCIAL & DECOMMISSIONING		WOULD CLARIFY DECISION MAKING ON COMMERCIAL
Pu-waste or asset?		Key determinant of SMP future & LCRL costs
Proliferation risks		Stocks of separated Pu are a security risk

Flipchart output from Production Operations Workshop

REPROCESSING MAGNOX FUEL 81

ISSUE	REASONS
① 2012 impossible feast What is the reason for this date?	Predictors being able to use Magnox fleet Not based on capacity - what is foregone?
Extension of lifetime for Magnox power stations	
Establish life expectancy for each Magnox power station eg Wylfa - & particular operation/reprocessing	Rational closure plan
OSPAR has driven decisions about MAGNOX fleet but changes in processing has reduced difficulty to achieve OSPAR	OSPAR shouldn't continue to drive the closure process
£1.3B for running MAGNOX longer is a good idea	Revenue for clean-up ^{See Thorp} Help with Carbon targets Ideally 'gearing' for NDA
Springfield's made last fuel	What is the stockpile? Limits possible use of MAGNOX - again 2012

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ISSUE	REASON
Thorp could reprocess MAGNOX arising	What would 'head-end' cost? Is it economic

OXIDE FUEL REPROCESSING 83

ISSUE	REASON
7 AGR stations - run them as long as possible	Bankers will need return!
Heysham II & Torness similar plant - why different closure dates?	Want to understand what the nuclear fleet could achieve. There are assumptions but from outside industry we don't know understand
What is the ^(rationale) purpose of restarting Thorp?	Makes different decisions about spent fuel disposal - direct disposal Reduces accident of running Thorp HAST enphred quicker NII to make decisions on safety case Longer storage could be problem with corrosion of stored fuel Technical & Socio-economic (jobs)
Economic/contractual issues with overseas customers - some customers have not had benefit Virtual reprocessing	Environment Safety Commercial risk management

OXIDE REPROCESSING 84

ISSUE	REASON
Macro economics ^(benefits) of reprocessing are an illusion T or F (whole fuel cycle)	UK plc needs to determine
Is there sufficient storage capacity at Sellafield for AGR etc. arising - if Thorp does not re-start?	Future need for build of storage facilities etc
More than commercial/civil arising to be considered How do nuclear arising compare? Civil/military	MDU..... less information and understanding - national security Opportunities for Thorp with (military) supply. Use of asset
Keeping AGR capability	Reduce carbon burden on environment

Flipchart output from Production Operations Workshop

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ISSUE	REASON
Pu stockpile	Conversion to Pu immobilisation plant for direct disposal of ceramic matrix - sell off Pu at lowest price to stimulate demand
Design of new build reactors	Consider use of MOX fuel (UK stations - obligation to be able to use MOX?)
Lifespan of SMP	What is the lifespan? / capacity. Production capacity seems poor to design
Assessing Govt decision for SMP MOX production / Is production adequate to ensure continued operation & customer's	Plant available and ageing

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ISSUE	REASON
BE spent fuel becomes liability to NDA what is responsibility the impact on facilities required	What happens to Pu
CORWM decision high significance for future of MOX plant	Need to solve Pu problem by using SMP at some time in future Pu as waste or asset?

CATCH ALL

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ISSUE	REASONS
Focus on 'clean-up' Intelligent clean-up, NDA mission	Stops thinking about strategic use of nuclear assets, eg keeping MAGNOX or AGR stations open
Retaining skills and knowledge about nuclear fuel cycle	Have to have practical application. New activities on Sellafield site
Extension of operation plant	Retains employment - skills

Flipchart output from Production Operations Workshop

ISSUES	REASONS
<p>Reprocessing of Magnox</p> <ul style="list-style-type: none"> • THE CURRENT STRATEGY IGNORES THE POTENTIAL ① FOR LIFE EXTENSION OF THE LAST 4 MAGNOX POWER STATIONS & CONSEQUENTLY THE REPROCESSING CAPABILITY 	<p>Fuel.</p> <ul style="list-style-type: none"> • T_c 99 IS SOLVED • CAN MEET OSPAR REQUIREMENTS WITHOUT NEEDING THIS CLOSING DOWN. • FURTHER/ADDITIONAL INCOME WOULD PROVIDE RESOURCES TO NDA • AVOID C.O₂ EMISSIONS • PROLONGS EMPLOY. MAINTAINING SKILLS

ISSUES	REASONS
<ul style="list-style-type: none"> • NO EVIDENCE OF A SEARCH FOR NEW BUSINESS - MAGNOX REPROCESSING. ② • ENSURING THAT MAGNOX REPROCESSING CONTINUES. ③ 	<ul style="list-style-type: none"> • IGNORING MARKET(S) • MAINTAINING SKILLS • LIFESPAN OF EXISTING REACTOR ARTIFICIALLY LIMITED • TO AVOID STORAGE PROBLEMS

ISSUES	REASONS
<p>OXIDE FUEL REPROCESSING</p> <ul style="list-style-type: none"> • STRATEGY IGNORES POTENTIAL INTERNATIONAL MARKET. • EARLY RESOLUTION TO CURRENT THORP SHUTDOWN. SHOULD BE SOUGHT • ANXIETY ABOUT NDA'S PRIORITIES 	<ul style="list-style-type: none"> • IMPACTS NEGATIVELY (£300m pa) ON NDA'S INCOME STREAM • WASTE OF MONEY • ADVERSE P.R. • CAN WE TRUST THEM? • DAMAGE TO MORALE IN THORP • GENERALLY A NEGATIVE ATTITUDE TOWARDS THE NUCLEAR BUSINESS

ISSUES	REASONS
<ul style="list-style-type: none"> • TO CONTINUE REPROCESSING ① SHOULD REMAIN AN OPTION. 	<ul style="list-style-type: none"> • ALLOWS CURRENT AGR / OR / EXISTING FUTURE FLEET OF REACTORS TO USE REPROCESSING AS A CONSERVATION MEASURE. • REPROCESSING RETAINS REPROCESSING AS A FUTURE OPTION. • 'TIDY' • IMPROVES SUSTAINABILITY

Flipchart output from Production Operations Workshop

ISSUES	REASONS
<ul style="list-style-type: none"> NEW BUILD FUEL STORE COSTS WILL BE A BURDEN IF NO OXIDE FUEL REPROCESSING FULL UTILISATION OF THORP 	<ul style="list-style-type: none"> ECONOMICS LONG-TERM SAFETY SECURITY UNTIIDY TO AVOID WASTING AN ASSET FUTURE MARKET GROWTH? SUPPORT FOR LOCAL ECONOMY/WORKFORCE

ISSUES	REASONS
<p>Manufacture of MOX</p> <ul style="list-style-type: none"> GENERATION OF REVENUE MAINTAIN THE SMP SEARCHING FOR MARKETS FOR MOX FUEL 	<p>(S.M.P.)</p> <ul style="list-style-type: none"> THE ASSET IS 'A GOLD MINE' LONG TERM FUTURE BENEFIT FOR UK PLC. ECONOMICS USE OF ASSETS (HUMAN/CAPITAL) SUPPORTING A (GROWING?) DOMESTIC MARKET

ISSUES	REASONS
<ul style="list-style-type: none"> LOOKING FOR PARTNERS TO HELP REACH MARKETS FOR MOX SIZE OF PLUTONIUM STOCKPILE SKILLS + CAPABILITY 	<ul style="list-style-type: none"> WITHOUT THIS UNDERUTILISED RESOURCE HELP REDUCE SIZE OF IT. MAINTAIN DOMESTIC CAPABILITY REVERSE 'BRAIN DRAIN'

ISSUES	REASONS
<ul style="list-style-type: none"> WEAPONS PROLIFERATION 	<ul style="list-style-type: none"> SMP NEEDED TO REDUCE PERCEPTION OF PROLIFERATION.

Flipchart output from Production Operations Workshop

CATCH ALL
(MAGNOX REPROCESSING)

- DECISIONS ON LIFETIME OF THORP TO REPROCESS ACR FUEL, WILL THEY BE INFLUENCED BY LIFETIME EXTENSIONS OF ACR STATION OPERATIONS?
- ON THE EVE OF A NEW AGE OF POWER STATION DECOMMISSIONMENT POTENTIALLY, HAS ANYONE ADDRESSED FUTURE FUEL REPROCESSING FROM THESE NEW REACTORS?

- WHAT IS THE IMPACT OF KEEPING THORP OPEN TO MEET FUTURE BUILD FUEL MANAGEMENT REQUIREMENTS
- IF THORP WERE TO BE KEPT OPEN WHAT IMPACT WOULD THIS HAVE ON THE ABILITY TO GET ON WITH Sellafield CLEAN-UP?
- SOME OF THE THEMES FOR AVAILABILITY OF REPROCESSING SERVICE REQUIREMENTS TO SUPPORT FUTURE REACTOR FUEL MANAGEMENT CHOICES WOULD SEE THORP ~ 50-80 YEARS OLD AT THE POTENTIAL END OF SUCH A PROGRAMME.
- IS THERE MERIT IN LOOKING AT A REVERSE CRITICAL PATH STUDY OF WHAT COULD BE CLEANED-UP IF THORP OPERABILITY WERE TO BE RESUMED IN THE FUTURE.

- IF THERE WERE TO BE NO (OR LITTLE) RECYCLE OF PRODUCTS WHAT WOULD THE RATIONALE BE FOR ANOTHER REPROCESSING FACILITY.
- SMP MAY HAVE THE POTENTIAL TO DEAL WITH SURPLUS MILITARY PLUTONIUM.
- IT SEEMS AS THOUGH THERE ARE POTENTIAL OPPORTUNITIES FOR NEW BUSINESS FOR THESE PLANTS - SOME STAKEHOLDERS ARE INTERESTED IN EXPLORING THIS BE THE SOCIO ECONOMIC BENEFITS.
- THERE ARE COMPLEXITIES IN TERMS OF SKILLS AND IMPACT ON PROCESS OF CLEAN-UP ON THE SITE OF FURTHER BUSINESS WHICH WOULD NEED TO BE TAKEN INTO ACCOUNT

- WOULD IT BE THE CASE THAT WERE BNC TO BE SOLD, THE CURRENT RANGE OF INTERESTED POTENTIAL COMPANIES ARE MAINLY CLEAN-UP FOCUSED, RATHER THAN NEW BUSINESS
- PRESENT FOCUS SEEMS TO SLIGHT THINGS DOWN VERY NEGATIVE. ARE WE IN DANGER OF GETTING OUT OF STEP WITH AN INDUSTRY WHICH IS WAKING UP AGAIN
- STRUCTURE OF THE NUCLEAR INDUSTRY NOW SUBORDINATES CLEANUP IMPERATIVES FROM NEW BUILD.
- OTHER LOCAL 'FOEA' CAN NOW ENCOURAGE THESE ISSUES TO BE DEVELOPED WITH MINISTERS, & ECONOMIC REGENERATION

Flipchart output from Production Operations Workshop

- USE OF RESOURCES SUCH AS RECOVERED URANIUM IN TERMS OF THE RESIDUAL ENERGY POTENTIAL WHICH COULD FUEL "NEW BUILD" REACTORS.
- THERE IS A NEED FOR THE INDUSTRY TO BE MORE EFFECTIVE IN ITS COMMUNICATIONS ESPECIALLY ABOUT NUCLEAR WASTE ISSUES, AS PART OF CREATING A BALANCED VIEW.
- INITIAL HALF LIFE OF HLW AS UTILIFIED MATERIAL IS 30 YEARS DOMINATED BY STRONTIUM AND CAESIUM DECAY THEREFORE OTHER NUCLEIDES DOMINATE

- COLWM WEBSITE IS A USEFUL SOURCE OF INFORMATION ON WASTE ISSUES.
- NIREX NATIONAL INVENTORY DATA IS ALSO USUALLY AVAILABLE
- COULD WE^{NOW} CONTINUE TO MEET THE OSTAL REQUIREMENTS EVEN WITH AN EXTENSION TO MAGNEX REPROCESSING?
- YES
- WHAT HAS EMERGED OR STUDIED IN TERMS OF DRY STORAGE OF MAGNEX IS IT JUST SIMILAR TO WMLFA DRY STORE OR CASUS AS WELL?

- TO WHAT EXTENT HAS WORK BEEN DONE ON DEMOS WITTED MAGNEX FUEL?
- AGR + THORP REPROCESSING.
- WHAT IMPLICATIONS ARE THERE IN TERMS OF BOND STORAGE CAPACITIES FOR LIFE EXTENSIONS OF AGR STATIONS? CAN IT ALL BE STORED AT SELLAFIELD?
- WOULD SUB-CONTRACT OPTION ~~WORK~~ COVER ALL FUELS OR JUST LW.
 - JUST LW. NOT AGR.
- THERE IS A BIG POTENTIAL MARKET FOR LW REPROCESSING SERVICES WHICH IS NOT BEING EXPLORED BECAUSE THE CLEAN-UP IS THE MAIN OBJECTIVE FOR THE SITE

- WHAT LEVEL OF CONFIDENCE IS THERE IN THE SAFETY OF HA STORAGE TANKS IN LOOKING BEYOND 2015?
- IF AGR FULL REPROCESSING WERE TO CONTINUE SURELY YOU WOULD SEEK ADDITIONAL BUSINESS TO DEFRAID COSTS AND PROVIDE INCOME.
- FOR ADDITIONAL BUSINESS FOR THORP BPEO EXPECTATIONS OF REGULATORS WOULD CURRENTLY BE AN ESSENTIAL PART.

Flipchart output from Production Operations Workshop

MAX FUEL MANUFACTURE

- WHAT PROPORTION OF Pu STOCKS AT Sellafield ARE UNSUITABLE FOR FUEL MANUFACTURE?
- ~ 5% IS DEEMED TO BE UNSUITABLE FOR FUEL USE AT PRESENT.
- OTHER PRE-TREATMENTS COULD ADDRESS SOME OF THIS.
- A 'WINDOW OF OPPORTUNITY' OF SOME DECADES EXISTS FOR DECISIONS TO BE TAKEN IN RESPECT OF FUTURE USE IN THE CONTEXT OF AMERICIUM INEQUALITY.

- HOW 'OLD' WOULD OXIDE DERIVED Pu NEED TO BE BEFORE IT WAS TOO DIFFICULT TO HANDLE.
- SOME (A COUPLE OF) DECADES AND IN THE EVENT BLENDING STRATEGIES COULD BE USED TO ADDRESS THIS.
- HOW EXPENSIVE IS IT TO IMMobilISE Pu?
- WHAT IS THE CURRENT THRO' PUT OF SM?
- UNDER PRESENTLY ENVISAGED REACTOR LICENSING ONLY 30% OR SO OF THE COLES WOULD BE MAX DOESNT THIS MEAN THAT ACTUALLY Pu STAYS IN BARRAGE

- IS IMMobilISATION REVERSIBLE?
- ESSENTIALLY NO!
- LIKENING OF SM? SM 30%.

Integrated Strategy for Sellafield Stakeholder Workshops Initial Report

Production Operations, 9th February 2006, Westlakes Research Institute

This document summarises the key points from the stakeholder workshop on production operations and is an integral part of British Nuclear Group’s development of an Integrated Strategy for Sellafield.

In the workshop, a series of presentations were made to stakeholders by British Nuclear Group. Stakeholders also had an extended opportunity to seek clarification from and question British Nuclear Group’s technical staff throughout the day. In the final plenary session, the following issues were identified as paramount to decision making relating to production operation.

Magnox Reprocessing

- The current strategy ignores the potential for life extension of the last four Magnox power stations and consequently the reprocessing capability.
- No evidence of a search for new business – Magnox reprocessing.
- Ensuring that Magnox reprocessing continues.
- 2012 for the closure of the Magnox fleet – why have we got into that position?
- The Magnox operating plan should drive the site strategy, but the plan should be updated and revised if and when necessary.
- There should be considerations as to whether the life of the Magnox fleet can and should be extended.
- The Magnox operating plan should be demonstrably the best practicable environmental option.

AGR Fuels

- To continue reprocessing should remain an option.
- Early resolution to current THORP shutdown should be sought.
- Full utilisation of THORP.
- What is the rationale of re-starting THORP?
- What is the wider usefulness of the facilities for nuclear and other materials?
- The correct placement for a commercial business, ie is it right to be with the Government and the NDA?
- Need for an “Oxide Operating Strategy”, particularly for AGR fuel.
- The associated need for clarity on long term storage arrangements for AGR fuel.
- The need for ultimate disposal routes for vitrified HLW and/or irradiated fuel.

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MOX Manufacture

- Maintain the SMP.
- Search for markets for MOX fuel.
- Look for partners to help reach markets for MOX.
- Plutonium stockpile and the utility of the SMP plant to deal with this issue.
- What is the capability of the SMP now and hopefully with improvements into the future?
- The management of existing plutonium stocks – waste or asset?
- Reduction of proliferation risks.
- Beyond its role in the management of plutonium the future of SMP should be determined by a clear business case.

Catch-all board

- What would happen if the perspective of the industry were to change from domination by NDA's? desire to put itself out of business to concern for national energy security?
- How long can HEIs retain a reaching capability when there is no career structure in the UK?
- Production operations strategy should not be limited to these 3 areas and should include all waste treatment plants (eg glass blocks produced).
- No industrial champion for nuclear industry in the UK.
- Skills – maintain for future generations.
- Need for increased security, particularly for fissile materials (plutonium) is growing.
- There is no recorded evidence of anyone being injured by inhalation or injection of plutonium.

Subsequent to this event, a photo-report of all comments as they were recorded on the day will be produced and disseminated to workshop attendees.

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4 Some NDA stakeholder Activities looking at Wider Issues

Spent Fuels

The NDA will be carrying out an assessment of the full life-cycle implications of spent fuel management so that it may meet its obligations under the Energy Act 2004. This review will inform the NDA's approach to spent fuel management, including an assessment of the risks and opportunities, and will include:

- a full life-cycle financial, safety, security and environmental assessment of the range of options available for spent fuel management;
- engaging with a broad range of stakeholders including the Nuclear Materials Issue Group established by the UK National Stakeholder Group on the options available;
- criteria to be used to assess the different options will include safety, security, environmental and economic considerations

Uranics

The NDA will be assessing the options for managing uranic materials. This assessment will consider safety, security, environmental and economic considerations. The NDA will be engaging with the UK National Stakeholder Group's Nuclear Material Issue Group to gain their input on the most appropriate management strategies for uranic materials.

Plutonium

The NDA has agreed with the Department of Trade and Industry that it will develop a macro-economic analysis of the life-cycle costs associated with plutonium management. This analysis will include safety, security, environmental and economic considerations. The NDA will also discuss plutonium management options with other bodies and Government Departments and agencies such as DEFRA, the Scottish Executive and the nuclear regulators.

Skills

The initiatives described below are aimed at ensuring that the workforce has the ability to acquire the skills required to make the transition from operations to decommissioning, and offer retraining and continued career development at all levels. Key to the success of this strategy are partnerships with national and local organisations that will enhance NDA investment. The key initiatives are:

- a Nuclear Skills Institute: a joint venture with Manchester University aimed at creating an Institute based at Westlakes in Cumbria that will carry out world class research, delivery of MSc courses and provide a link to the broader UK academic network;
- a National Nuclear Skills Academy: a "hub and spoke" model that will establish skills requirements nationally while delivering training through local colleges and training organisations close to the relevant NDA sites.

NDA
10 April 2006

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5 The way forward

At the end of the 3 one day workshops, Phil Hallington from British Nuclear Group summarised the way forward for stakeholder engagement in relation to the Integrated Strategy for Sellafield as follows:

- These workshops are just the start of a journey to explore futures for the Sellafield Site at a strategic level, with Stakeholders.
- The Site is widely recognised as being very complex, and the need to generate income for the NDA from production activities at the same time as continuing to accelerate clean - up is a unique feature of this Site.
- Because of this, the approach being taken in developing the integrated strategy for the Site so far, is to concentrate on the immediate objectives of hazard and environmental risk reduction, targeted decommissioning of some facilities, putting wastes into suitable storage, so that a sustainable point is reached, whilst the final arrangements for disposal of wastes are confirmed. This will be followed up by consideration of the end points for the Site and dealing with the contaminated land aspects during the rest of 2006.
- The effective involvement of Stakeholders in developing the fully integrated strategy for Sellafield is a cornerstone of our work, we recognise the many and growing demands for Stakeholder attention, and we will endeavour to co-ordinate our work to make best use of this scarce resource.
- Follow - up on the issues which have arisen at these workshops is a vital aspect, and we will be seeking to provide information, largely web –based which allows Stakeholders to continue to engage with us as we go forward.
- The skills and support available within the Community surrounding Sellafield represent a major asset, which will have a vital part to play in delivering the future for the Site
- We all need to recognise that some issues raised in these Workshops go much wider than developing the strategy for remediation of Sellafield. Some are beyond the remit of the NDA as well, for example the potential impact of the current Government Review of future energy supply. The Community will need to consider how it wants to move these aspects forward.

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