



Trawsfynydd

Site Stakeholder Group Report Site Closure Director

4 December 2017

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Site Closure Director's report to the Site Stakeholder Group
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Trawsfynydd continues to make good progress towards the site's entry into Care and Maintenance in a safe and compliant manner and in adherence to Company Standards and best practice. In the reporting period, we have made very good progress in high hazard reduction on the site and also delivered an improved level of conventional safety performance

1. SAFETY OVERVIEW

1.1 Safety Performance

Trawsfynydd continues on its journey to Care and Maintenance with several projects completed since my last report to the SSG. I am pleased to report that this work has been achieved without any serious injury. It is now fifteen months since our last lost time accident. Both our Total recordable Incident Rate (TRIR) and Day Away Case Rate (DACR) are at zero. There have been three first aid events during the period; a person bumped their head resulting in a small scratch, a finger cut due to a sharp edge on a door handle and a cut to the elbow from contact with a scaffold clip.

A first aid promotion day was held on 30 October where the Red Cross instructed 47 staff and contractors in essential lifesaving skills such CPR and how to use a defibrillator.

In line with the company values and safety improvement plan to deliver a 'Target Zero' approach to safety, the site has been actively promoting monthly themed campaigns including electrical safety, radiological safety, fire safety, mental health awareness and most recently slips, trips and falls as the winter months approach.

The reporting culture continues to be healthy with site well on track to see the largest volume of Learning Capture Forms (LCF's) received in a single year (April-March). Trawsfynydd regularly receives in excess of 100 forms per month. There is some concern that forms are not being received directly from those 'on the shop floor' but increasingly LCF's are being raised on behalf of individuals by their Supervisors or Line Managers, Safety Reps or Operational Experience team, this situation is continuing to be monitored.

The trends from LCF data during the period are:

- The quality of and the adherence to documentation relating to setting to work,
- Working at height by delivery vehicles. Site has adopted a zero tolerance stance on this and several deliveries have been refused because the delivery drivers could not demonstrate a safe means of loading / unloading
- A rise in the reported incidence of items not being PAT tested. It is believed that this trend is due to greater general awareness of PAT testing as there has been an increased resource from Interserve addressing PAT testing. The trend is being monitored

1.2 Quality Assurance and oversight

- The Site has been leading the implantation of a comprehensive Assurance programme. This trial is now completed and the programme will be rolled out across all other Magnox Sites.
- Considerable has been undertaken to ensure that Site Documentation was revised to implement the revised Emergency Scheme.
- In October LRQA visited site for the triple certification visit. Site successfully passed the surveillance audit for its ISO9001, ISO14001 and ISO18001 accreditation

2. DECOMMISSIONING PROGRESS

Summary

Overall progress has been broadly to plan, but we have incurred some delays during commissioning of the new Fuel Element Debris Retrievals process. Progress on configuring the two reactors safestores has been excellent, and the project is now demobilising as planned. Work within the ponds programme has also progressed, and we anticipate completion of scabbling towards the end of the financial year, and this will be another significant milestone delivered. We have also continued to upgrade our site infrastructure to ensure that key assets are upgraded to modern standards and deliver safe reliable performance for the duration that they will be required.

2.1 Plant and Structures

With the completion of the Admin complex demolition works the area was levelled and 6000t of concrete/brick crush from the demolition was used to backfill the void of the old Turbine Hall basement this removed the risk of fall from height into the basement and improved overall site appearance. Existing services were re-directed or protected and a number of manholes extended to the new ground level.

Safestore boiler ends strengthening works phase 2 was completed ahead of schedule before the end of October. Scaffold erected in 17 areas, asbestos cleans completed and 1500 strengthening brackets installed. This leaves the boiler boxes, interspaces and cathedrals in both safestores complete and ready for height reduction.

Works to remove legacy 'hot spots' from the MAC vault in SS1 has been completed and the works in Safestore 2 is underway. The programme is on target to complete the works including concrete infill to the 2 vaults before the end of the financial year.



Haskins door canopies and East side lifts - we have lowered the East side lifts in both Safestores and left them in a safe compliant state for Care & Maintenance.

We have also removed the Yellow Haskins door canopies from both Safestores, as they were in a poor condition and could not remain without presenting risk to the workforce. A 350t crane was used to remove the two 15t canopies 35m above the ground in one piece. The openings will be now over-clad with pre-fabricated cladding sections lifted up with a 90t crane and fitted from a large MEWP.

The cleaning and subsequent grouting of the active drains system at Trawsfynydd has been in full swing for the last few months with a PBI on the project for the end of the calendar year. On completion of this phase high pressure grouting has been completed in the pipe runs and the chambers mass filled with concrete. This project is nearing completion with the removal of the active drains tank itself and the subsequent backfilling currently under way.

2.2 North FED

The first fully grouted package was transferred to the Intermediate Storage Facility. The programme of recoveries has suffered from plant reliability issues, which is not uncommon during commissioning of novel one-off plant, and we are working through the issues to drive reliability and performance up. We will complete the main phase of active commissioning by the end of the calendar year, following which we will transition into the operational phase in the first quarter of 2018.

2.3 South FED

Progress at the South FED Plant completed a major milestone in September for the 'Installation of retrieval and processing equipment' with NDA formal acceptance received in November. The project has now entered the next phase of 'Setting to Work.'

2.4 Waste

Natural Resources Wales issued the site a warning letter in July regarding the breach of an environmental permit. The breaches were due to a discrepancy between the content of containers sent to the Low Level Waste Repository (LLWR) in 2015 and the accompanying paperwork. This discrepancy was due to technical issues relating to the assessment of low level waste and other containers that were being prepared for shipment. We investigated this thoroughly and have re-assessed our assessment methods for such wastes, which have been verified by personnel from the Low Level Waste Repository (LLWR). At no time was there any radiological risk to the public.

This financial year (2017-18) to date the site has produced 655 tonnes of waste of which 86 % (89% if hazardous waste is excluded from the totals) was recycled. During the financial year 201-17, 1273 tonnes of waste were produced and 77% (87 % recycling rate with hazardous waste excluded) was recycled.

2.4.1 Waste Milestones

- Main Sludge Vault (MSV) and Transportable Intermediate Level Waste Solidification Plant (TILWSP) a further 7 x 3m³ boxes of Intermediate Level Waste (ILW) Sludge retrieved from the MSV, grouted in TILWSP and transferred to the site Interim Storage Facility (ISF). We expect to complete this important and challenging programme as planned in the financial year.
- Legacy radioactive Low Level Waste processing - 159.3 m³ consigned from site this financial year to date against an initial site target of 150m³
- The Low Active Waste Team were nominated and finalists for an international safety award within Babcock International group for their implementation of the 5-S manufacturing process
- Waste Requiring Additional Treatment (WRAT) – Legacy High Activity Low Level Oily Waste (HALLOW) processed and transport arranged for samples to be consigned to the USA for analysis prior to off-site disposal

3. PEOPLE

The workforce numbers at Trawsfynydd remain stable, during this period we have successfully ceased operational shift operations on site, this change is part of a Company Strategy as the sites progress with their Decommissioning Programme, the only remaining shift workers are the Security Team. As we complete projects on the site we anticipate that Tier 2 contractor numbers will reduce significantly. In regard to Tier 1 resources, we are continually adapting the organisation by taking advantage of workforce turnover to ensure that we can meet the overall programme of works.

We are supporting a Company EDI (equality, diversity and inclusion) Programme which is about making EDI visible in the workplace. Stand downs have been held at all locations in order to highlight expectations of staff and supply workers and to communicate the EDI Strategy and plan of improvements. We have also been focusing on supporting the Company Safety Improvement Plan; one of the improvement areas is to provide support to improve employee physical and mental wellbeing. Through this initiative we have identified a number of nominees across the Company who have volunteered to be Mental Health First Aiders; training has been delivered and successful volunteers will shortly become formally authorised as a Mental Health First Aider and be available to support employees where required. Team Leader/Manager Training is also being piloted to help in identifying Stress, Building Resilience & Healthy Minds for themselves and their teams.

Succession planning is underway to ensure a smooth transition in September 2019 when the Parent Body Organisation (PBO) Contract between Cavendish Fluor Partnership and the NDA is mutually terminated.

4. ENVIRONMENTAL SAFETY

4.1 Radioactive Discharges

Solid

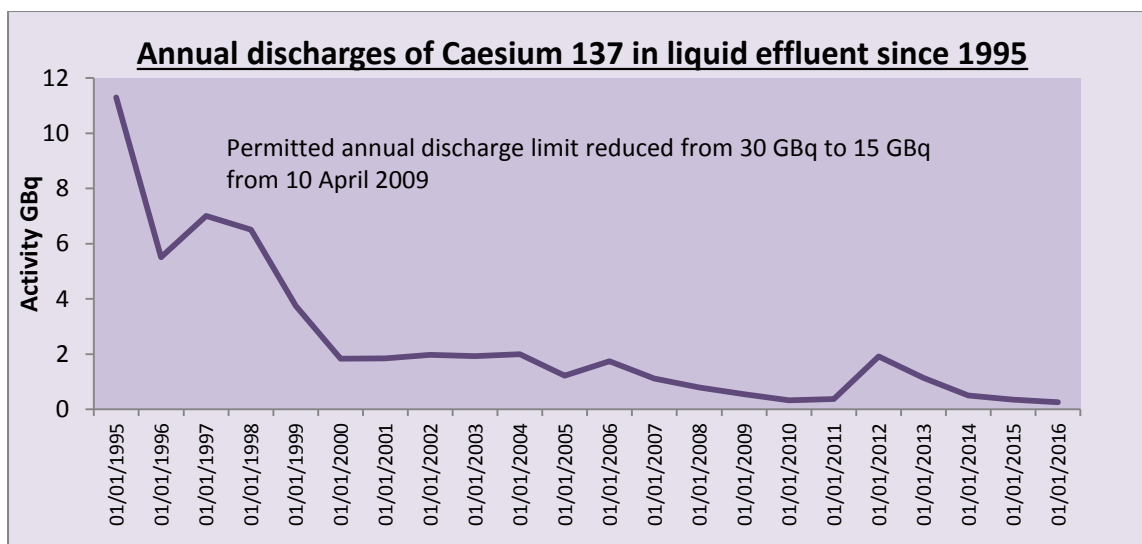
Low Level Waste (LLW) disposals off site continue with a total of 383m³ transferred off site in the 2017 calendar year, to the end of October. There is no limit on the volume or radioactivity content under the site's Environmental Permitting Regulations permit.

Liquid

The liquid radioactive discharges are mainly made up of discharges from the site's Mobile Active Effluent Plant (MAETP) and the water collected in the Diversion Culvert. The main contributor to the volume of water treated through the MAETP is rainwater ingress into drains and sumps, which are now in the process of being decommissioned. Over 60,000 m³ of water was discharged over the 12 months presented in the table below.

Radionuclide or Group of Radionuclides	Annual Limit (GBq)	Activity discharged (September 2016 to end of September 2017)
Tritium	300	0.5
Caesium-137	15	0.1
Other Radionuclides	30	0.4

As requested by the Site Stakeholder Group, the following table illustrates how the Caesium-137 discharges have decreased since 1995.



Gaseous

The main contributor of Tritium and Carbon-14 discharges are the breathing reactor vessels. The other beta emitting radionuclides are associated with particulate matter discharged via forced ventilation plants, which are equipped with high efficiency filters.

Radionuclide or Group of Radionuclides	Annual Limit (GBq)	Activity discharged (September 2016 to end of September 2017)
Tritium	375	32.4
Carbon 14	10	1.1
Other beta emitting radionuclides	0.05	0.00095

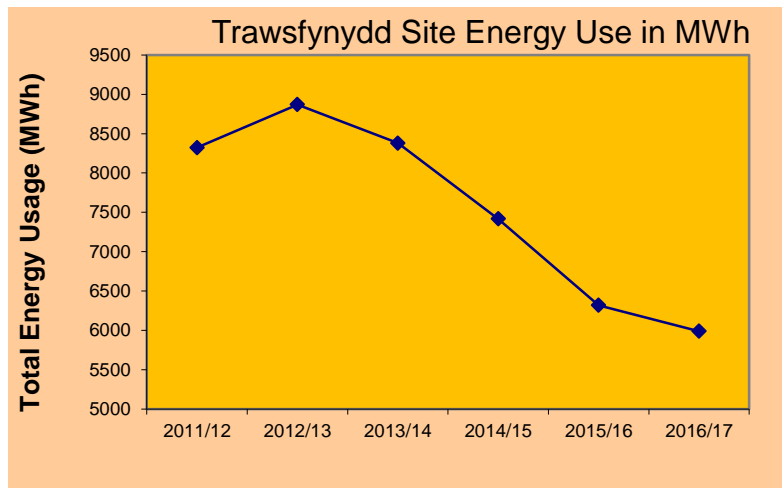
4.2 Non-radiological Environmental update

Magnox Ltd.’s corporate Environmental Management System continues to have BS EN ISO 14001 (2004) certification awarded by Lloyds Register Quality Assurance (LRQA). The certification will be made under BS EN ISO 14001 (2015) from 2018 and it is considered that certification to the revised standard provides increased assurance that regulatory compliance is being effectively delivered. The Site was subject to a surveillance audit by LRQA in 2017 and the auditors focused on RSR EPR monitoring result Return submission, there were no audit findings.

Site environmental management arrangements have been updated to accommodate the new working patterns that have been put in place following the cessation of 24h hour Shift working on Site during October 2017. A revised environmental aspects register has been produced and the arrangements for ensuring compliance with the 7 current EPR permits (that contain non-radioactive discharge limits and management requirements).

Surveillance of compliance with the 7 EPR permits for non-radiological discharges showed continuing compliance with these requirements. In addition, the demolition of the Admin Block and Workshop Complex and the crushing of the large volumes of inert material generated was accomplished without any significant impact on site drainage or effluent systems.

The Site continues to monitor its impact on the environment. Much of the energy consumed is used in nuclear safety related plant, however as plant is decommissioned the energy usage continually changes. The largest recent energy improvement resulted from vacating the old Administration and Workshop Block. Being an old and inefficient building switching off of services to these buildings resulted in a reduction of approximately 45MWh of energy usage per month (equating to 40 tonnes of CO2 per month). The recent gradual decrease in total energy and carbon dioxide usage can be seen in the graphs shown below. We expect to see these increase as new process plant (e.g. FED) comes into full operational service.



4.3 Environmental Events

There were no major environmental events at the Site during 2017 as defined in the Environment Agency Compliance Classification Scheme (CCS) category 1 or 2 events. However, a Category 3 CCS event occurred in relation to low level waste sentencing which led to a regulatory response from NRW. This incident involved the use of inappropriate radionuclide scaling factors (“fingerprints”) for consignments of ponds scabbling waste to the Low Level Waste Repository near to Drigg. The Site (and the Company) received a formal Warning Letter following this incident. Measures have been put in place to minimise the risk of recurrence.

5. RADIOLOGICAL SAFETY

Explanatory note: The maximum permissible dose to a radiation worker in the UK is 20mSv (milliSieverts) in a calendar year. The average annual radiation dose to the UK population from all sources is 2.6mSv. Collective dose is measured in “man milliSieverts”.

Doses for the 2017 calendar year, to the end of October, are as follows:

- Approximately 149 employees received a total collective dose of 6.7 man mSv between them
- Approximately 637 contractors received a total collective dose of 41.6 man mSv between them
- The highest individual dose received by an employee was 0.4 mSv
- The highest individual dose received by a contractor was 2.1 mSv

The majority of dose accrued so far in 2017 has been a combination of the ponds decommissioning project and the ILW sludge recovery project. All doses in these projects have been prior-assessed to be justified, optimised and are then tracked throughout the project duration to ensure doses are kept as low as reasonable practicable and within the relevant limits.

6. EMERGENCY ARRANGEMENTS

Contingency arrangements are now well embedded into work delivery. With all work packs citing appropriate arrangements for keeping their teams safe. Contingency arrangements have repeatedly proven effective during exercises and on occasions during real events. The Site has now transitioned to the revised Contingency Arrangements for sites in Monitoring and Surveillance during Silent Hours - effective at 12:00hrs Monday 16 October 2017. This is the second successful change to the site Accident and Emergency Arrangements in less than 12 months with the support of the Regulators. The success is a testament to the commitment and flexibility of everyone involved. Learning from Bradwell and Trawsfynydd is being shared with others sites in the programme to remove 24/7 shifts.

A site exercise took place on the 15 August 2017 to demonstrate the revised Contingency Arrangements and was assessed as adequate by the Magnox Independent Assurance Team. The site supported Wylfa in a RADSAFE table-top exercise participating as the consigning site. Valuable learning was identified and will be incorporated in the site arrangements.

A programme of local exercises involving the various work groups on site is progressing with one event a month. The aim is to rehearse and embed all the relevant Contingency Arrangements Response Plans for Conventional, Radiological and Security incidents.

Below are photographs and CCTV stills from a recent exercise:



Aim: To demonstrate the Contingency Arrangements for dealing with an incident involving a casualty in a controlled area

Outcome: An excellent demonstration of the arrangements with many examples of good practice e.g. casualty handling, rescue procedures, equipment use / performance, site first aid response, communications, command & control and log / record keeping. Also, support from Plants & Structures to plan and deliver the exercise

7. SITE VISITS AND KEY DATES

19.6.17	Traws SSG Site visit and tour
21.6.17	Paul Hunt, Magnox Decommissioning Director Visit
03/04.06.17	ONR Inspection (LC32, 33 & 34)
05/06.06.17	Annual Review Of Safety Security and the Environment (AROSSE) Site visit/inspection
17.07.17	The site welcomed Ken Skates AM, Cabinet Secretary for Economy & Infrastructure and Lord Dafydd Ellis-Thomas
10.08.17	Anna Clark (NDA) / Mike Pearl – site visit for meeting with Paul Hunt
15.08.17	Pete Knollmeyer, Magnox Chief Nuclear Officer, Site visit
07.09.17	 <p>A group of delegates from the China National Nuclear Corporation and the Welsh Government visited site</p>
11.09.17	Gary Ward/Paul Edwards/Andrew Osborne/Ed Selden – Site visit
19.09.17	Guto Bebb MP made a second visit to site
09.10.17	ONR Inspection (LC26, 28 & 36)
24.10.17	Dave Rushton (NDA) FEDER Site visit
31.10.17	Traws Site Review with Kenny Douglas, Magox Exec



Trawsfynydd

Adroddiad Grŵp Rhanddeiliaid Safle Cyfarwyddwr Cau'r Safle

4 Rhagfyr 2017

Trawsfynydd

Adroddiad Cyfarwyddwr Cau'r Safle i Grŵp Rhanddeiliaid y Safle 4 Rhagfyr 2017

Mae Trawsfynydd yn parhau i wneud cynnydd da o ran taith y safle tuag at y cyfnod Gofal a Chynnal a Chadw mewn modd diogel a chydymffurfiol ac yn unol â Safonau'r Cwmni a'r arferion gorau. Yn y cyfnod adrodd, rydyn ni wedi gwneud cynnydd da iawn o ran lleihau peryglon uchel ar y safle, ac rydyn ni hefyd wedi sicrhau lefel well o berfformiad o ran diogelwch confensiynol

1. TROSOLWNG O DDIOGELWCH

1.1 Perfformiad o ran Diogelwch

Mae Trawsfynydd yn parhau ar ei thaith tuag at y cyfnod Gofal a Chynnal a Chadw, gyda nifer o brosiectau wedi cael eu cwblhau ers fy adroddiad diwethaf i'r Grŵp. Rwy'n falch o adrodd fod y gwaith wedi cael ei gwblhau heb unrhyw anaf difrifol. Erbyn hyn, mae pymtheg mis wedi mynd heibio ers y ddamwain 'colli amser' ddiwethaf. Mae Cyfanswm ein Cyfradd Digwyddiadau cofnodadwy (TRIR) a'r Gyfradd Achosion Diwrnod i Ffwrdd (DACR) ar sero. Bu tri achos cymorth cyntaf yn ystod y cyfnod; fe wnaeth unigolyn daro'i ben gan arwain at grafiad bach, torri bys oherwydd ymyl siarp ar ddwrn drws, a thoriad ar y penelin o ganlyniad i gyffwrdd clip sgaffald.

Cynhaliwyd diwrnod i hyrwyddo cymorth cyntaf ar 30 Hydref, lle bu'r Groes Goch yn hyfforddi 47 aelod o staff a chontractwyr mewn sgiliau arbed bywyd hanfodol, fel adfywio cardiopwlmonaidd a sut i ddefnyddio diffibriliwr.

Yn unol â gwerthoedd y cwmni a'i gynllun gwella diogelwch i sicrhau dull 'Targed Sero' o ymdrin â diogelwch, mae'r safle wedi mynd yn mynd ati i hyrwyddo ymgyrchoedd thematig misol, gan gynnwys diogelwch trydanol, diogelwch radiolegol, diogelwch tân, ymwybyddiaeth o iechyd meddwl ac yn fwyaf diweddar, llithro, baglu a chwympo wrth i'r gaeaf gyrraedd.

Mae'r diwylliant adrodd yn parhau i fod yn iach, gyda'r safle ar y trywydd iawn i weld y nifer fwyaf o Ffurflenni Cofnodi Dysgu (LCF) wedi dod i law mewn un flwyddyn (Ebrill-Mawrth). Mae Trawsfynydd yn aml yn cael mwy na 100 o ffurflenni bob mis. Mae rhywfaint o bryder nad yw'r ffurflenni'n cael eu derbyn yn uniongyrchol gan y rhai 'ar lawr y gwaith', ond yn hytrach mae'r ffurflenni'n cael ei cyflwyno ar ran unigolion gan eu Goruchwylwyr neu Reolwyr Llinell, Cynrychiolwyr Diogelwch neu'r tîm Profiad Gweithredol. Mae'r sefyllfa'n parhau i gael ei monitro.

Dyma dueddiadau'r data LCF yn ystod y cyfnod:

- Ansawdd y dogfennau, a chadw atynt, mewn perthynas â bwrw at y gwaith
- Cerbydau danfon yn gweithio ar uchder. Mae'r safle wedi mabwysiadu safbwynt 'goddef dim' ar hyn, a gwrthodwyd nifer o ddanfoniadau oherwydd na allai'r gyrwyr ddangos bod ganddynt ffordd ddiogel o lwytho / dadlwytho
- Cynnydd yn nifer yr achosion a adroddir am eitemau heb brawf PAT. Credir bod y tueddiad wedi digwydd o ganlyniad i fwy o ymwybyddiaeth o brofion PAT oherwydd bu cynnydd yn yr adnoddau gan Interserve ar gyfer profion PAT. Mae'r tueddiad yn cael ei fonitro

1.2 Sicrhau ansawdd a goruchwyliaeth

- Mae'r Safle wedi arwain y gwaith o roi rhaglen Sicrwydd cynhwysfawr ar waith. Mae'r cynllun treialu wedi'i gwblhau erbyn hyn, a bydd y rhaglen yn cael ei rhoi ar waith yn holl safleoedd eraill Magnox.
- Cymerwyd gofal arbennig i sicrhau bod Dogfennau'r Safle wedi cael eu hadolygu er mwyn rhoi'r Cynllun Argyfwng diwygiedig ar waith.
- Ym mis Hydref, ymwelodd LRQA â'r safle ar gyfer tri ardystiad. Fe wnaeth y safle lwyddo yn yr archwiliad goruchwyllo ar gyfer ei achrediad ISO9001, ISO14001 ac ISO18001

2. Y CYNNYDD O RAN DATGOMISIYNU

Crynodeb

Ar y cyfan, mae'r cynnydd wedi dilyn y cynllun yn fras, ond cafwyd peth oedi wrth gomisiynu'r broses newydd ar gyfer Adfer Malurion yr Elfen Tanwydd. Bu'r cynnydd yn rhagorol ar ffurfweddu dwy storfa ddiogel yr adweithydd, ac erbyn hyn mae'r prosiect yn tynnu staff allan fel y bwriadwyd. Mae gwaith wedi mynd yn ei flaen o fewn y rhaglen pyllau hefyd, ac rydyn ni'n disgwyl cwblhau'r gwaith brasnaddu tuag at ddiwedd y flwyddyn ariannol, a dyma gyrraedd carreg filltir bwysig arall. Rydyn ni hefyd wedi parhau i uwchraddio seilwaith y safle er mwyn sicrhau bod asedau allweddol yn cael eu huwchraddio i safonau modern ac yn darparu perfformiad dibynadwy a diogel am y cyfnod y bydd eu hangen.

2.1 Peiriannau a Strwythurau

Gyda chwblhau'r gwaith dymchwel ar yr adeiladau Gweinyddol, cafodd yr ardal ei gwastatau a defnyddiwyd 6000 tonnell o goncrit/briciau wedi'u chwalu o'r gwaith dymchwel i lenwi'r gwagle ar ôl seler yr hen Neuadd Dyrbin. Roedd hyn yn cael gwared ar y perygl o gwmpo o uchder i'r seler, ac yn gwella edrychiad y safle yn gyffredinol. Cafodd y gwasanaethau presennol eu hailgyfeirio neu eu gwarchod, a chafodd nifer o dyllau archwilio eu heangu i'r llawr gwaelod newydd.

Cafodd cam 2 y gwaith o gryfhau pennau boeler y storfa ddiogel ei gwblhau cyn yr amserlen, sef cyn diwedd mis Hydref. Codwyd sgaffald mewn 17 o ardaloedd, cwblhawyd y gwaith glanhau asbestos, a gosodwyd 1500 o fracedi cryfhau. Mae hyn yn gadael blychau'r boeler, rhyngleoedd a chadeirlannau yn y ddwy storfa ddiogel yn gyflawn ac yn barod ar gyfer gostwng uchder.

Cwblhawyd y gwaith i dynnu hen 'fannau poeth' o'r gromgell MAC yn SS1, ac mae'r gwaith yn Storfa Ddiogel 2 yn mynd yn ei flaen. Mae'r rhaglen ar y trywydd iawn i gwblhau'r gwaith, gan gynnwys mewnlenni concrit yn y ddwy gromgell cyn diwedd y flwyddyn ariannol.



Canopïau drysau Haskins a lifftiau'r ochr Ddwyreiniol - rydym wedi gostwng lifftiau'r ochr Ddwyreiniol yn y ddwy Storfa Ddiogel, ac wedi eu gadael mewn cyflwr diogel a chydymffurfiol ar gyfer Gofal a Chynnal a Chadw.

Rydyn ni hefyd wedi tynnu'r canopïau drysau Yellow Haskins o'r ddwy storfa ddiogel oherwydd roeddent mewn cyflwr gwael ac ni allent aros yno heb beryglu'r gweithlu. Defnyddiwyd craen 350 troedfedd i dynnu'r ddau ganopi 15 troedfedd 35 metr uwchben y ddaear mewn un darn. Bydd yr agoriadau'n cael cladin gan godi rhannau cladin wedi'u gwneud o flaen llaw gyda chraen 90 troedfedd a'i ffitio o MEWP mawr.

Mae'r gwaith glanhau a'r growtio ar y system ddraenio weithredol yn Nhrawsfynydd yn mynd yn ei flaen ers rhai misoedd a'r PBI ar y prosiect fydd diwedd y flwyddyn galendr. Ar ôl cwblhau'r cam hwn, cwblhawyd y gwaith growtio pwysedd uchel yn y pibellau, a llenwyd y siambrau â choncrid. Mae'r prosiect ar fin cael ei gwblhau, drwy symud y tanc draeniau gweithredol ei hun ac ôl-lenwi wedyn.

2.2 Malurion Efen Tanwydd (FED) y Gogledd

Cafodd y pecyn cyntaf wedi'i growtio'n llawn ei drosglwyddo i'r Cyfleuster Storio Canolradd. Mae'r rhaglen adfer wedi dioddef oherwydd problemau gyda dibynadwyedd y gwaith, sy'n eithaf cyffredin wrth gomisiynu gwaith unigryw newydd. Rydyn ni'n ceisio datrys y problemau er mwyn hybu dibynadwyedd a pherfformiad. Byddwn ni'n cwblhau prif gam y gwaith comisiynu gweithredol erbyn diwedd y flwyddyn galendr, ac yna byddwn ni'n symud i'r cam gweithredol yn chwarter cyntaf 2018.

2.3 Malurion Efen Tanwydd (FED) y De

Mae'r cynnydd yng Ngwaith Malurion Efen Tanwydd y De wedi cyrraedd carreg filltir bwysig ym mis Medi ar gyfer 'Gosod offer adfer a phrosesu', a chafodd ei dderbyn yn ffurfiol gan yr Awdurdod Datgomisiynu Niwclear ym mis Tachwedd. Mae'r prosiect nawr wedi dechrau ar y cam nesaf sef 'Paratoi i Weithio'.

2.4 Gwastraff

Rhoddodd Cyfoeth Naturiol Cymru lythyr rhybuddio i'r safle ym mis Gorffennaf, yn gysylltiedig â thorri trwydded amgylcheddol. Torrwyd y drwydded oherwydd anghysondeb rhwng cynnwys cynwysyddion a anfonwyd i'r Storfa Gwastraff Lefel Isel yn 2015 a'r gwaith papur cysylltiol. Digwyddodd yr anghysondeb oherwydd materion technegol yn ymwneud ag asesu gwastraff lefel isel a chynwysyddion eraill a oedd yn cael eu paratoi i'w llwytho. Rydyn ni wedi ymchwilio'n drylwyr i hyn ac rydyn ni wedi ailasesu ein dulliau asesu ar gyfer gwastraff. Mae staff o'r Storfa Gwastraff Lefel Isel wedi gwirio hyn. Nid oedd unrhyw berygl radiolegol i'r cyhoedd o gwbl.

Hyd yma y flwyddyn ariannol hon (2017-18), mae'r safle wedi cynhyrchu 655 tunnell o wastraff, ac ailgylchwyd 86% ohono (89% os yw gwastraff peryglus yn cael ei eithrio o'r cyfansymiau). Yn ystod blwyddyn ariannol 2016-17, cynhyrchwyd 1273 tunnell o wastraff ac ailgylchwyd 77% (87% o gyfradd ailgylchu gyda'r gwastraff peryglus wedi'i eithrio).

2.4.1 Cerrig Milltir Gwastraff

- Y Brif Gromgell Slwtsh (MSV) a'r Gwaith Caledu Gwastraff Lefel Canolradd Cludadwy (TILWSP) a blychau 7 x 3m o Slwtsh Gwastraff Lefel Canolradd wedi'i adfer o'r MSV, wedi'i growtio yn TILWSP a'i drosglwyddo i Gyfleuster Storio Interim (ISF) y safle. Rydyn ni'n disgwyl cwblhau'r rhaglen bwysig a heriol hon fel y cynlluniwyd yn y flwyddyn ariannol.
- Prosesu hen Wastraff Lefel Isel ymbelydrol - 159.3 m³ wedi'i draddodi o'r safle hyd yma y flwyddyn ariannol hon, o gymharu â tharged cychwynnol o 150m³ ar gyfer y safle
- Cafodd y Tîm Gwastraff Gweithredol Isel ei enwebu a chyrrhaeddodd y rownd derfynol mewn gwobr ddiogelwch ryngwladol o fewn grŵp Babcock International am weithredu'r broses weithgynhyrchu 5-S
- Gwastraff sydd angen Triniaeth Ychwanegol (WRAT) – Hen Wastraff Olewog Lefel Isel Gweithredol Iawn (HALLOW) wedi'i brosesu, a threfnwyd cludiant i draddodi samplau i'r UDA i'w dadansoddi cyn cael gwared arnynt oddi ar y safle

3. POBL

Mae nifer y gweithle yn Nhrawsfynydd yn parhau'n sefydlog. Yn ystod y cyfnod, rydyn ni wedi rhoi'r gorau i weithrediadau shifftiau gweithredol ar y safle. Mae'r newid hwn yn rhan o Strategaeth y Cwmni wrth i'r safle barhau â'i Raglen Ddatgomisiynu, a'r unig weithwyr shifftiau sydd ar ôl yw'r Tîm Diogeledd. Wrth i ni gwblhau prosiectau ar y safle, rydyn ni'n rhagweld y bydd niferoedd contractwyr Haen 2 yn lleihau'n fawr. O ran adnoddau Haen 1, rydyn ni'n addasu'r sefydliad drwy'r amser drwy fanteisio ar drosiant y gweithle i sicrhau ein bod ni'n gallu cyflawni'r holl raglen waith.

Rydyn ni'n cefnogi Rhaglen Cydraddoldeb, Amrywiaeth a Chynhwysiant y Cwmni, sy'n rhoi sylw i'r materion hyn yn y gweithle. Cynhaliwyd sesiynau ymhob lleoliad i dynnu sylw at yr hyn a ddisgwylir gan y staff a'r gweithwyr cyflenwi ac i roi gwybod am y Strategaeth Cydraddoldeb, Amrywiaeth a Chynhwysiant a'r cynllun gwelliannau. Rydyn ni hefyd wedi canolbwyntio ar gefnogi Cynllun Gwella Diogelwch y Cwmni; un o'r meysydd gwella yw rhoi cymorth i wella lles corfforol a meddyliol y gweithwyr. Drwy'r fenter, rydyn ni wedi canfod nifer o bobl wedi'u henwebu yn y Cwmni sydd wedi gwirfoddoli i roi Cymorth Cyntaf Iechyd Meddwl; rhoddwyd hyfforddiant a bydd y gwirfoddolwyr llwyddiannus yn cael caniatâd ffurfiol chyn bo hir i roi Cymorth Cyntaf Iechyd Meddwl ac i fod ar gael i gefnogi gweithwyr pan fod angen. Hefyd, mae Hyfforddiant i Arweinwyr/Rheolwyr Timau yn cael ei dreialu i helpu i ganfod Straen, Meithrin Gwytnwch a Meddyliau Iach ar eu cyfer eu hunain a'u timau.

Mae cynllunio ar gyfer olyniaeth yn digwydd er mwyn sicrhau cyfnod pontio llyfn ym Medi 2019 pan fydd y Contract Sefydliad Corff Rhiant rhwng Cavendish Fluor Partnership a'r Awdurdod Datgomisiynu Niwclear yn dod i ben.

4. DIOGELWCH AMGYLCHEDDOL

4.1 Gollyngiadau Ymbelydrol

Solet

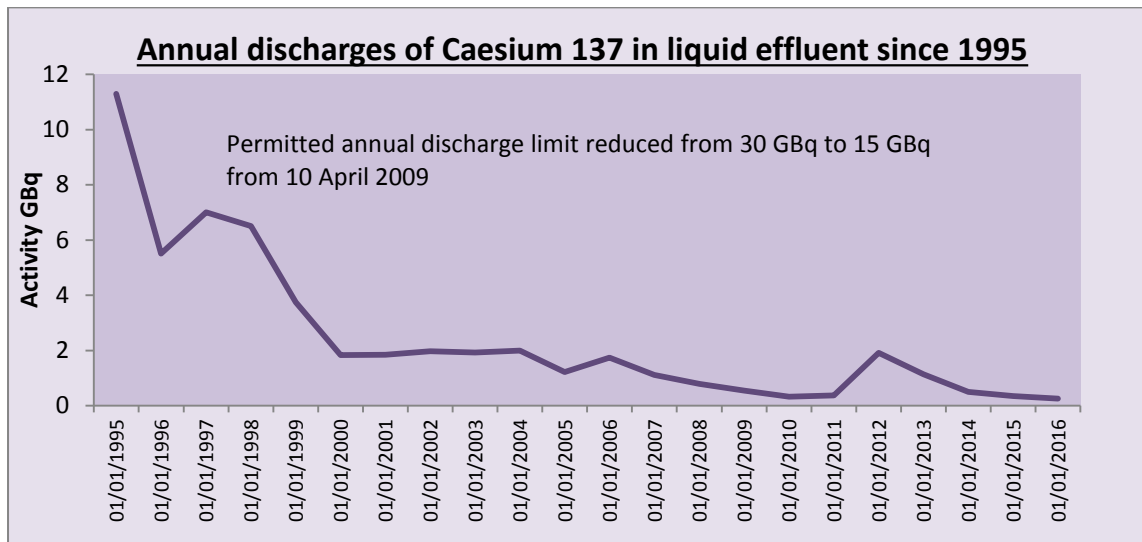
Mae'r gwaith o waredu Gwastraff Lefel Isel oddi ar y safle yn parhau, a throsglwyddwyd cyfanswm o 383m³ oddi ar y safle ym mlwyddyn galendr 2017 hyd at ddiwedd mis Hydref. Nid oes terfyn ar faint na chynnwys ymbelydrol dan drwydded Rheoliadau Trwyddedu Amgylcheddol.

Hylif

Mae'r gollyngiadau ymbelydrol hylifol yn bennaf yn cynnwys gollyngiadau o Waith Elifion Actif Symudol y safle (MAETP) a'r dŵr sy'n cael ei gasglu yn y Geuffos Dargyfeirio. Y prif beth sy'n cyfrannu at faint o ddŵr sy'n cael ei drin drwy'r MAETP yw dŵr glaw'n mynd i mewn i ddraeniau a swmpau, sydd wrthi'n cael eu datgomisiynu. Cafodd dros 60,000 m³ o ddŵr ei ollwng dros y 12 mis. Gweler yn y tabl isod.

Radioniwclid neu Grŵp o Radioniwclidau	Terfyn Blynyddol (GBq)	Ymbelydredd a ryddhawyd (Medi 2016 hyd at ddiwedd Medi 2017)
Tritiwm	300	0.5
Caesiwm-137	15	0.1
Radioniwclidau Eraill	30	0.4

Fel y gofynnwyd gan Grŵp Rhanddeiliaid y Safle, mae'r tabl canlynol yn dangos sut mae gollyngiadau Caesiwm-137 wedi gostwng ers 1995.



Nwyol

Y prif beth sy'n cyfrannu gollyngiadau Tritiwm a Charbon-14 yw'r llestri adweithyddion anadlu. Mae'r radioniwclidau eraill sy'n allyrru beta yn gysylltiedig â mater gronnynol sy'n cael ei ryddhau drwy waith awyru gorfodol, sydd â hidlyddion effeithlon iawn.

Radioniwclid neu Grŵp o Radioniwclidau	Terfyn Blynyddol (GBq)	Ymbelydredd a ryddhawyd (Medi 2016 hyd at ddiwedd Medi 2017)
Tritiwm	375	32.4
Carbon 14	10	1.1
Radioniwclidau eraill sy'n allyrru beta	0.05	0.00095

4.2 Y diweddaraf am faterion Amgylcheddol nad ydynt yn rhai Radiolegol

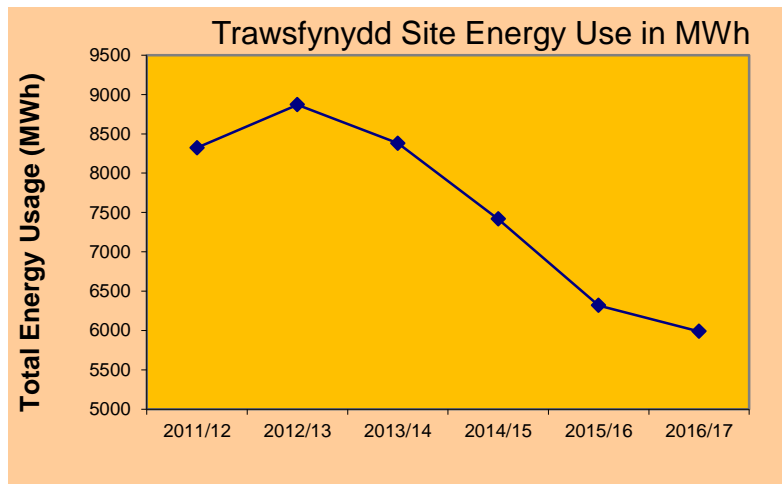
Mae System Reoli Amgylcheddol gorfforaethol Magnox Ltd yn parhau ag ardystiad BS EN ISO 14001 (2004), wedi'i ddyfarnu gan LRQA (Lloyds Register Quality Assurance). Caiff yr ardystiad ei wneud o dan BS EN ISO 14001 (2015) o 2018 ymlaen, a ystyrir bod yr ardystiad i'r safon ddiwygiedig yn darparu sicrwydd bod cydymffurfiaeth â'r rheoliadau'n digwydd yn effeithiol. Roedd y Safle'n destun archwiliad goruchwyliol gan LRQA yn 2017, a bu'r archwilwyr yn canolbwyntio ar adroddiad canlyniad monitro RSR EPR. Ni chafwyd unrhyw ganfyddiadau gan yr archwiliad.

Mae trefniadau rheoli amgylcheddol y safle wedi cael eu diweddarau ar gyfer y patrymau gweithio newydd sydd wedi cael eu sefydlu ers i waith Shifftiau 24 awr ddod i ben ar y safle yn ystod mis Hydref 2017. Crewyd cofrestr ddiwygiedig o agweddau amgylcheddol, a threfniadau ar gyfer sicrhau cydymffurfiaeth â'r 7 trwydded EPR gyfredol (sy'n cynnwys terfynau gollyngiadau nad ydynt yn ymbelydrol a gofynion rheoli).

Roedd goruchwylio cydymffurfiaeth â'r 7 trwydded EPR ar gyfer gollyngiadau nad ydynt yn ymbelydrol yn dangos cydymffurfiaeth barhaus â'r gofynion hyn. Hefyd, cafodd y Bloc Gweinyddol a'r Adeiladau Gweithdy eu dymchwel a

chafodd llawer o ddeunydd anadweithiol ei chwalu heb unrhyw effaith sylweddol ar system ddraenio neu elifion y safle.

Mae'r Safle'n parhau i fonitro ei effaith ar yr amgylchedd. Mae llawer o'r ynni'n cael ei ddefnyddio mewn gwaith yn ymwneud â diogelwch niwclear, ond wrth i'r gwaith gael ei ddatgomiynu mae'r defnydd o ynni'n newid drwy'r amser. Mae'r gwelliant mwyaf i ynni yn ddiweddar wedi digwydd o ganlyniad i wagio'r hen Floc Gweinyddol a Gweithdy. Gan eu bod yn hen ac aneffeithlon, mae diffodd y gwasanaethau i'r adeiladau yma wedi arwain at ryw 45MWh o ostyngiad yn y defnydd o ynni bob mis (sy'n cyfateb i 40 tonnell o CO2 bob mis). Yn y graffiau isod, gellir gweld y gostyngiad graddol diweddar yng nghyfanswm y defnydd o ynni a charbon deuocsid. Rydyn ni'n digwyl i'r rhain gynyddu wrth i'r gwaith prosesu newydd (e.e. FED) droi'n wasanaeth cwbl weithredol.



4.3 Digwyddiadau Amgylcheddol

Ni fu unrhyw ddigwyddiadau amgylcheddol mawr ar y Safle yn ystod 2017, fel y diffinnir yn nigwyddiadau categori 1 neu 2 Cynllun Categorioreiddio Cydymffurfiaeth Asiantaeth yr Amgylchedd. Ond bu digwyddiad Categori 3 y Cynllun mewn perthynas â dedfrydu gwastraff lefel isel a arweiniodd at ymateb rheoleiddiol gan Gyfoeth Naturiol Cymru. Roedd y digwyddiad yn ymwneud â defnyddio ffactorau graddio radioniwclid amhriodol ("olion bysedd") ar gyfer traddodi gwastraff brasnaddu pyllau i'r Storfa Gwastraff Lefel Isel ger Drigg. Derbyniodd y Safle (a'r Cwmni) Lythyr Rhybuddio ffurfiol yn dilyn y digwyddiad. Sefydlwyd mesurau i leihau'r risg y bydd hyn yn digwydd eto.

5. DIOGELWCH RADIOGELOL

Nodyn esboniadol: Y dos mwyaf a ganiateir i weithiwr ymbelydredd yn y DU yw 20mSv (milliSieverts) mewn blwyddyn galendr. Ar gyfartaledd, mae'r dos ymbelydredd blyneddol i'r boblogaeth yn y DU o bob ffynhonnell yn 2.6mSv. Mae'r dos cyfunol yn cael ei fesur mewn "man miliSievertau".

Dyma'r dosiau ar gyfer blwyddyn galendr 2017, hyd at ddiwedd mis Hydref:

- Cafodd tua 149 o weithwyr gyfanswm o 6.7 man mSv rhyngddynt
- Cafodd tua 637 o gontractwyr gyfanswm o 41.6 man mSv rhyngddynt
- 0.4 mSv oedd y dos unigol mwyaf i weithiwr
- 2.1 mSv oedd y dos unigol mwyaf i gontractwr

Mae'r rhan fwyaf o'r dos a gafwyd yn 2017 hyd yma wedi bod yn gyfuniad o'r prosiect datgomiynu pyllau a'r prosiect adfer slwtsh gwastraff lefel ganolraddol. Mae holl ddosiau'r prosiectau wedi cael eu hasesu ymlaen llaw er mwyn eu cyfiawnhau, eu hoptimeiddio ac yna maen nhw'n cael eu tracio drwy gydol y prosiect i sicrhau bod y dosiau'n cael eu cadw mor isel ag sy'n rhesymol yn ymarferol ac o fewn y terfynau perthnasol.

6. Y TREFNIADAU WRTH GEFN

Mae'r trefniadau wrth gefn wedi'u sefydlu'n gadarn yn y gwaith. Mae pob pecyn gwaith yn cyfeirio at y trefniadau priodol ar gyfer cadw'r timau'n ddiogel. Mae'r trefniadau wrth gefn wedi bod yn effeithiol dro ar ôl tro yn ystod ymarferion, ac weithiau mewn digwyddiadau go iawn. Mae'r safle wedi trosglwyddo nawr i'r Trefniadau Wrth Gefn ar gyfer safleoedd yn y cyfnod Monitro a Goruchwyllo yn ystod Oriau Tawel - sy'n weithredol am 12:00 o'r gloch ddydd Llun 16 Hydref 2017. Dyma'r ail newid llwyddiannus i Drefniadau Damwain ac Argyfwng y safle mewn llai na 12 mis gyda chefnogaeth y Rheoleiddwyr. Mae'r llwyddiant yn dyst i ymrwymiad a hyblygrwydd pawb sy'n gysylltiedig. Mae'r hyn a ddysgwyd gan Bradwell a Thrawsfynydd yn cael ei rannu â safleoedd eraill sydd yn y rhaglen i ddileu shiftiau 24/7.

Cynhaliwyd ymarfer ar y safle ar 15 Awst 2017 i ddangos y Trefniadau Wrth Gefn adolygedig ac fe'u haseswyd fel rhai digonol gan Dîm Sicrwydd Annibynnol Magnox. Fe wnaeth y safle gefnogi Wylfa mewn ymarfer bwrdd RADSAFE gan gymryd rhan fel y safle traddodi. Dysgwyd pethau gwerthfawr, a byddant yn cael ei ymgorffori yn nhrefniadau'r safle.

Mae rhaglen o ymarferion lleol, sy'n cynnwys y gweithgoreu amrywiol ar y safle, yn datblygu gydag un digwyddiad y mis. Y nod yw ymarfer ac ymgorffori holl Gynlluniau Ymateb y Trefniadau Wrth Gefn perthnasol ar gyfer digwyddiadau Confensiynol, Radiolegol a Diogelwch.


Isod, ceir ffotograffau a lluniau teledu cylch cyfyng o ymarferiad diweddar:



Nod: Dangos y Trefniadau Wrth Gefn ar gyfer delio â digwyddiad lle mae rhywun wedi'i anafu mewn ardal reoledig
Canlyniad: Arddangosfa ragorol o'r trefniadau, a llawer o enghreifftiau o arferion da, e.e. trin anafusion, gweithdrefnau achub, defnyddio offer / perfformiad, cymorth cyntaf ar y safle, cyfathrebu, gorchymyn a rheoli a chadw cofnodion. Hefyd, cymorth gan Beiriannau a Strwythurau i gynllunio a chyflwyno'r ymarferiad

7. DYDDIADAU ALLWEDDOL AC YMWELIADAU Â'R SAFLE

19/06/2017	Ymweliad a thaith o gwmpas y safle i'r Grŵp yn Nhrawsfynydd
21/06/2017	Ymweliad gan Paul Hunt, Cyfarwyddwr Datgomisiynu Magnox
03/04.06.17	Archwiliad ONR (LC32, 33 a 34)
05/06.06.17	Ymweliad/archwiliad ar gyfer yr Adolygiad Blynyddol a Ddiogelwch, Diogeledd a'r Amgylchedd (AROSSE)
17/07/2017	Rhoddodd y safle groeso i Ken Skates AC, Ysgrifennydd y Cabinet dros yr Economi a'r Seilwaith a'r Arglwydd Dafydd Elis-Thomas
10/08/2017	Anna Clark (NDA) / Mike Pearl – ymweliad â'r safle i gwrdd â Paul Hunt
15.08.17	Pete Knollmeyer, Prif Swyddog Niwclear Magnox, Ymweliad â'r Safle

07.09.17		Ymwelodd criw o gynrychiolwyr o Gorfforaeth Niwclear Genedlaethol Tsieina a Llywodraeth Cymru
11.09.17	Gary Ward/Paul Edwards/Andrew Osborne/Ed Selden – Ymweliad â'r Safle	
19.09.17	Guto Bebb AS yn ymweld â'r safle am yr ail waith	
09.10.17	Archwiliad ONR (LC26, 28 a 36)	
24.10.17	Ymwelodd Dave Rushton (NDA) FEDER	
31/10/2017	Adolygiad o Safle Traws gyda Kenny Douglas o Magnox	