

Written evidence submitted by Dylan Morgan

Beth nesaf i safleoedd niwclear Wcráin, Wylfa a Thrawsfynydd?

Mae ymosodiadau milwrol Rwsia ar Wcráin wedi bod yn arswydus. Fodd bynnag, nid yw un ffaith frawychus am y gwrthdaro hwn yn cael ei adrodd yn y wasg. Dyma'r rhyfel gyntaf i gael ei hymladd ar dir gwlad lle mae adweithyddion niwclear gweithredol. Yn wir, mae Wcráin yn cael tua 52% o'u trydan o 15 adweithydd.

Yn ystod dyddiau cyntaf cyrch Rwsia, eu dewis lwybr i mewn i Wcráin i'r de o Belarws oedd trwy'r ardal waharddedig o gwmpas hen adweithyddion niwclear Chernobyl. Adroddir bod lefelau ymbelydredd yn yr ardal wedi codi oherwydd bod cerbydau milwrol trwm Rwsia wedi corddi llwch a mwd gan ryddhau ymbelydredd i'r amgylchedd. Llwyddodd lluoedd Rwsia i gipio rheolaeth o safle Chernobyl. Mae adroddiadau yn ein cyrraedd sy'n awgrymu bod gweithwyr Wcráin sy'n ceisio cadw'r safle mor ddiogel â phosibl o dan straen mawr. Adroddir bod tua dau gant ohonynt wedi gorfod aros yno heb gyfleusterau gorffwys am y bythefnos gyntaf wedi i luoedd Rwsia gyrraedd. O fewn dyddiau wedyn, clywsom am luoedd Rwsia yn ymosod ar safle niwclear Zaporizhzhia yn ne ddwyrain Wcráin. Dyma safle niwclear mwyaf Ewrop syn gartref i chwech adweithydd 950MW Sofietaidd. Hynny yw, chwech Wylfa wrth ochr ei gilydd. Trwy lwc, ni chafodd yr adweithyddion hyn na'r storffeydd gwastraff yno eu taro, ond achoswyd difrod mawr i adeilad hyfforddi ar y safle. Mae milwyr Rwsia wedi cipio'r safle hwn hefyd. Mae'n rhesymegol i dybio bod yr amodau gwaith yno i weithwyr Wcráin yn anodd iawn wrth geisio rhedeg tri o'r chwech adweithydd gyda symudiad i ac o'r safle yn cael ei reoli gan y Rwsiaid. Adroddir bod tri adweithydd yn segur yno ar hyn o bryd. A ninnau bellach yn agos at ganol Awst, mae'r IAEA wedi disgrifio'r sefyllfa yn Zaporizhzhia fle un 'allan o reolaeth'. Mae clywed datganiad o'r fath gan gorff rhyngwladol sy'n arolygu'r diwydiant niwclear yn fyd-eang yn wirioneddol frawychus. Ni allwn ond gobeithio na ddaw enwau safleoedd niwclear Rovno (4 adweithydd), De Wcráin (3 adweithydd) a Khmeinstski (2 adweithydd) yn adnabyddus i ni dros yr wythnosau nesaf fel targedau milwrol fydd yn cael eu taro gan Rwsia. Mae Dr Jim Green o Gyfeillion y Ddaear Awstralia yn ein rhybuddio am beryglon heblaw am yr adweithyddion eu hunain mewn ysgrif o'r Ecologist ym Mawrth:-

“radioactive reactor cores whether kept in situ or removed from the reactors – would remain vulnerable, as would nuclear waste stores. Spent fuel cooling ponds and dry stores often contain more radioactivity than the reactors themselves, but without the multiple engineered layers of containment that reactors typically have.”

Un ffactor yn narlun mawr ymosodiad Rwsia yw dymuniad Wcráin i ehangu ei diwydiant niwclear gan droi at Westinghouse yn yr Unol Daleithiau fel cyflenwr wraniwm a chydannau trwm o safle niwclear V.C. Summer yn Ne Carolina, lle rhoddodd Westinghouse y gorau i adeiladu adweithydd AP1000 a'r prosiect bron ar ei hanner. Hyd yn ddiweddar, roedd diwydiant niwclear Wcráin yn dibynnu'n drwm ar gydweithredu â diwydiant niwclear Rwsia yn enwedig o safbwynt cael wraniwm wedi'i brosesu. Felly, dyma enghraifft drist o'r rhyfel hon sy'ndangos ei bod yn un am reolaeth dros adnoddau.

A beth am y Wylfa a Thrawsfynydd? Dyma farn Dr.Jim Green:-

“Put bluntly, humanity might have the wisdom to phase out the use of pre-deployed radiological bombs for electricity generation before nuclear powered nations go to war and deliberately or inadvertently cause nuclear catastrophe.

Or we might have to learn the hard way that using pre-deployed radiological weapons to boil water wasn't such a great idea after all. All the more so given the manifold connections between the 'peaceful atom' and nuclear weapons programs.”

Dyna osod obsesiwn niwclear y llywodraeth Geidwadol ac yn anffodus yr wrthblaid Lafur hefyd mewn cyd-destun ddylai'n hanesmwytho. Ers i Hitachi ddirwyn cwmni Horizon i ben a rhoi'r gorau'n llwyr i adeiladu dau adweithydd o'u heiddo ar safle'r Wylfa, mae diddordeb wedi cael ei fynegi o dri chyfeiriad i barhau â'r hunllef niwclear yno. Yn gyntaf, Shearwater Energy. Eu cynllun uchelgeisiol fyddai codi 12 adweithydd 70MW gan gwmni Nuscale o'r Unol Daleithiau a cheisio'u cysylltu â fferm wynt ar y môr. Problem Nuscale yw mai eu hadweithydd modiwlaid 50MW yn unig a gafodd ei gymeradwyo gan reoleiddwyr niwclear yr Unol Daleithiau. Mae amheuaeth hefyd am adnoddau ariannol cwmni Shearwater.

Yn ail, a dyma ffefryn Virginia Crosbie, AS Ynys Môn, Bechtel a Westinghouse yn cydweithio i godi dau neu o bosibl tri adweithydd AP1000 yn y Wylfa. Byddai hyn yn brosiect enfawr ac yn wynebu'r un heriau ariannol a Hitachi/Horizon. Yn wir, aeth Toshiba Westinghouse yn fethdalwyr yn yr Unol Daleithiau ar ôl methiant y prosiect i adeiladu'r adweithydd AP1000 ar safle V.C.Summer yn Ne Carolina. Yn 2018, prynwyd Westinghouse gan Brookfield Business Partners o Ganada, ac er y bu sôn union flwyddyn yn ôl am Brookfield yn ceisio'i werthu, mae Westinghouse yn parhau o dan eu perchnogaeth. Mae gan Bechtel enw drwg iawn am fandaliaeth amgylcheddol yn yr Unol Daleithiau, Bolifia, Irac a gwledydd eraill yn y Dwyrain Canol.

Yr unig ffordd y gall Bechtel/Westinghouse lwyddo i adeiladu adweithyddion niwclear yn y Wylfa yw trwy haelioni enfawr unrhyw lywodraeth yn Llundain fyddai'n barod i ddefnyddio model cyllid 'Regulated Asset Base', hynny yw, codi treth adeiladu niwclear ar ein biliau trydan. Mae storm wedi ein taro o ddechrau Ebrill yn ein biliau ynni chwyddedig. Mae llawer iawn o bobl yn ei chael hi'n anodd yn barod cyn i godiadau Ebrill ddod i rym. Bydd hi'n anodd iawn i unrhyw lywodraeth osod y dreth niwclear ar ein biliau trydan er mwyn parhau bywyd technoleg niwclear sy'n methu denu buddsoddwyr preifat o unrhyw faint arwyddocaol.

Dros y misoedd diwethaf, mae'r sŵn mwyaf yn dod o gyfeiriad Rolls Royce a'r ffaith eu bod yn llygadu Trawsfynydd a'r Wylfa ar gyfer eu hadweithydd modiwlaid. Gwrthodwn y label 'bach' am yr adweithydd hwn. Mae'n 470MW sy'n allbwn mwy na hen orsaf Trawsfynydd, ac yn gyfartal ag un o hen adweithyddion Magnox mawr yr Wylfa. Cofiwch mai 460MW oedd maint yr adweithydd a ffrwydrodd yn Fukushima Daiichi ym Mawrth 2011 a graddfa'r llygredd ymbelydrol achosodd hynny a'r cysgod hir mae'r drychineb niwclear honno yn parhau i daflu dros Ranbarth Fukushima'r Môr Tawel hyd heddiw.

Eisoes, mae Rolls Royce wedi derbyn grantiau o dros £100 miliwn ac yn fwy diweddar £210 miliwn i ddatblygu cynllun yr adweithydd modiwlaid, gwaith sydd wedi bod yn digwydd dros y chwe blynedd diwethaf. Byddai Rolls Royce hefyd yn dod â'u cap yn eu llaw i lywodraeth San Steffan i ofyn

am gymorth enfawr at gost adeiladu ar ein cefnau ni fel defnyddwyr a threthdalwyr. Byddai adweithydd Rolls Royce yn cynhyrchu gwastraff niwclear poeth a hirhoedlog fel yr adweithyddion mawr. Byddai'r gwastraff poeth hwnnw'n gorfod cael ei storio ar y safle. Nid oes tystiolaeth chwaith y byddai'n rhatach i'w adeiladu a'i redeg. Er yr holl ymffrostio gan Rolls Royce am y cynllun hwn, mae'n ddibynnol ar sicrhau safle neu safleoedd ffatri i gynhyrchu'r darnau modiwlaidd ar gyfer yr adweithydd. Heb sicrwydd ariannol ac archebion o'r tu allan i'r Wlawriaeth Brydeinig hefyd, bydd hi'n heriol a dweud y lleiaf i Rolls Royce dalu'r amcan gost geidwadol o £2.2 miliwn am y pump adweithydd modiwlaidd cyntaf heb sôn am godi unarddeg adweithydd arall wedi hynny. Yn ôl eu hamcangyfrif hwy byddai codi undeg chwech adweithydd yn sicrhau elw iddynt ar eu buddsoddiad.

Mae'n bwysicach nac erioed yng ngyd-destun y rhyfel yn Wcráin a'r argyfwng rhyngwladol sydd ohoni o safbwynt bygythiadau enfawr newid hinsawdd, fod mudiadau gwrth-niwclear CADNO ym Nwyfor Meirionnydd a PAWB ym Môn a Gogledd Gwynedd yn parhau i danlinellu mai technoleg fudr, hen ffasïwn, peryglus, eithafol ddrud a bygythiol i iechyd amgylcheddol a dynol yw ynni niwclear. Byddai'n dwyn adnoddau sydd eu hangen yn fawr ar dechnolegau adnewyddadwy sy'n rhatach, yn llawer cyflymach i'w hadeiladu ac yn fwy effeithiol i wrthweithio effeithiau newid hinsawdd.

What next for Ukraine's nuclear sites and Wylfa and Trawsfynydd?

Russia's military attacks on Ukraine have been terrible. However, there is one frightening fact about this conflict that isn't mentioned in the press. This is the first war to be fought on the land of a country that has operational nuclear reactors. In fact, Ukraine gets about 52% of its electricity from 15 nuclear reactors.

During the first days of the Russian invasion, their chosen path into Ukraine to the south from Belarus was through the exclusion zone around Chernobyl's old nuclear reactors. Higher levels of radioactivity have been reported in the area because Russia's heavy military vehicles have stirred up dust and mud releasing radioactivity in to the environment. Russian forces succeeded to gain control of the site. Reports are reaching us suggesting that Ukrainian workers trying to keep the site as safe as possible were under great strain. It was reported that about 200 of them had to stay there without rest facilities for the first fortnight after the arrival of the Russian forces. Within days, we heard about Russian forces attacking the Zaporizhzhia nuclear site in south east Ukraine. This is the largest nuclear site in Europe and is the home to six Soviet 950MW reactors. That is, six Wylfa size stations alongside each other. Luckily, neither the reactors nor the waste stores there were hit. But great damage was caused to a training building on the site. Russian soldiers have also captured this site. It is logical to presume that work conditions there are very difficult for Ukrainian workers in trying to run three of the six reactors with movement to and from the site controlled by the Russians. It appears that the 3 other reactors there are not in operation at the moment. Now in mid August, the IAEA has described the situation at Zaporizhzhia as 'out of control' Hearing such a statement from an international body which oversees the nuclear industry worldwide is truly terrifying. We can only hope that the names of the other nuclear sites, Rovno (4 reactors), South

Ukraine (3 reactors) and Khmeinitiski (2 reactors) don't become well known as military targets hit by Russia over the next weeks. Dr Jim Green from Friends of the Earth Australia warns us about dangers apart from the reactors themselves in an article in The Ecologist in March:-

“radioactive reactor cores whether kept in situ or removed from the reactors – would remain vulnerable, as would nuclear waste stores. Spent fuel cooling ponds and dry stores often contain more radioactivity than the reactors themselves, but without the multiple engineered layers of containment that reactors typically have.”

One factor in the big picture of Russia's attack is Ukraine's desire to expand its nuclear industry and to turn towards Westinghouse in the United States as a supplier of uranium and heavy components from the V.C Summer site in South Carolina, where Westinghouse abandoned the building of an AP1000 reactor with the project almost half completed. Until recently, Ukraine's nuclear industry depended heavily on Russia's nuclear industry especially regarding securing processed uranium. Therefore, this is a sad example from this war that shows it is one over the control of resources.

And what about Wylfa and Trawsfynydd? Here is Dr Jim Green's opinion:-

“Put bluntly, humanity might have the wisdom to phase out the use of pre-deployed radiological bombs for electricity generation before nuclear powered nations go to war and deliberately or inadvertently cause nuclear catastrophies.”

Or we might have to learn the hard way that using pre-deployed radiological weapons to boil water wasn't such a great idea after all. All the more so given the manifold connections between the 'peaceful atom' and nuclear weapons programs.”

That puts the Conservative government's and unfortunately the Labour opposition's nuclear obsession in a context that should disturb us. Since Hitachi disbanded the Horizon company and completely gave up on building two of their reactors at Wylfa, interest has been expressed from three directions to continue the nuclear nightmare there. Firstly, Shearwater Energy. Their ambitious plan would be building 12 70MW reactors from the US company Nuscale and trying to link them to an offshore wind farm. Nuscales's problem is that only their 50MW modular reactor has been approved by US nuclear regulators There is also doubt about Shearwater's financial resources.

Secondly, and this is the favourite of Virginia Crosbie, MP for Ynys Môn, Bechtel and Westinghouse co-operating to build two or possibly three AP1000 reactors at Wylfa. This would be a huge project and would face the same financial challenges as Hitachi/Horizon. In fact, Toshiba Westinghouse went into bankruptcy in the United States after the failure of the AP1000 project on the V.C. Summer site in South Carolina. In 2018, Westinghouse was bought by Brookfield Business Partners from Canada, and although there was speculation a year ago about Brookfield trying to sell it, Westinghouse remains under Brookfield's ownership. Bechtel has a very bad name for environmental vandalism in the United States, Bolivia, Iraq and other Middle Eastern countries.

The only way Bechtel/Westinghouse can succeed to build nuclear reactors at Wylfa is through huge generosity from any government in London who would use the 'Regulated Asset Base' funding model, i.e. raising a nuclear build tax on our electricity bills. A storm has already hit us in our inflated energy bills from the beginning of April. Very many people are already struggling before April's increases come into force. It will be very difficult for any government to impose this nuclear tax on

our electricity bills in order to continue the life of nuclear technology that fails to attract any significant private sector investors.

Over the past few months, the biggest noise comes from the direction of Rolls Royce and the fact that they are eyeing Trawsfynydd and Wylfa for their modular reactor. We reject the 'small' label for this reactor. At 470MW, its output is bigger than the old Trawsfynydd reactors and equal to one of the larger old Magnox reactors at Wylfa. Remember that the Fukushima Daiichi reactor that exploded in March 2011 was 460MW and the scale of radioactive pollution that caused, and the long shadow that nuclear disaster continues to cast over the Fukushima Prefecture and the Pacific Ocean.

Rolls Royce has already received government grants of £100 million and more recently £210 million to develop the modular reactor design, work that has gone on for the past six years. Rolls Royce would also come cap in hand to Westminster government to ask for huge aid towards the cost of building at our expense as consumers and taxpayers. The Rolls Royce reactor would produce hot and long lasting nuclear waste like the large reactors. That hot waste would have to be stored on site. There is no evidence either that they would be cheaper to run. Despite all Rolls Royce's boasting about this plan, it is dependent on securing a factory site or sites to produce the modular parts for the reactor. Without financial certainty and orders from outside the British State also, it will be challenging to say the least for Rolls Royce to pay the conservative cost estimate of £2.2 billion each for the first five modular reactors, not to mention building eleven more reactors after that. According to their estimates, building sixteen reactors will provide a profit for them on their investment.

It is more important than ever in the context of the war in Ukraine and the present international crisis in the form of the huge threats of climate change, that the anti-nuclear movements CADNO in Dwyfor Meirionnydd and PAWB in Ynys Môn and north Gwynedd continue to highlight that nuclear power is a dirty, outdated, dangerous, vastly expensive technology which threatens both human and environmental health. It would also steal much needed resources from renewable technologies which are cheaper, much quicker to build and more effective to combat the effects of climate change.

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Ar ran/on behalf of:

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August 2022