

Accidents will happen

DUNCAN CAMPBELL and NORMAN SOLOMON* investigate a 'minor incident' which could have showered Clydeside with plutonium, and the evidence for the instability of nuclear deterrent technology

THREE WEEKS AGO at the Holy Loch base near Glasgow, nightmare lurched abruptly onto reality's threshold. A Poseidon missile, holding ten nuclear warheads, was being winched between the mother-ship *Los Alamos* and the submarine *USS Holland*. The winch ran free, and the missile plunged 17 feet. Automatic brakes caught it just above the *Holland*'s hull. Swinging wildly, the Poseidon smashed into the mother-ship's side.

Everyone froze. 'We all thought we'd be blown away', said an eyewitness.

The risk was not thermonuclear explosion – but detonation in the fierce, sensitive chemical explosives of the warhead trigger-system, possibly involving the rocket's propellant fuel and other warheads aboard the *Holland* and the *Los Alamos*. Ships and men would have been engulfed in a radioactive cloud. In 1979, the US General Accounting Office estimated that the consequences of such an accident would be

*Norman Solomon investigated the hazards of the LX09 explosive with support from the Center for Investigative Journalism in California.

a radiological cigar-shaped cloud extending from the... scene for up to 28 miles, with a maximum width of 2.5 miles.

Given a prevailing wind, such a cloud would reach the heart of Glasgow from Holy Loch.

The exact margin of the city's escape is unclear, because the US Navy – despite Pentagon promises of full, voluntary disclosure over accidents with nuclear weapons – tried first to conceal the incident, and then to cloak it in disingenuous announcements. But there is high probability that the warheads involved were among the 'hundreds' admitted to contain the unstable explosive LX09. Tests have shown an LX09 sample is likely to detonate if a weight falls on it from just over 13 inches.

Strenuous efforts have been made, with some success in news-coverage terms, to suggest that the character of LX09 – though brightly lit by the Holy Loch incident – is just a recondite problem of weapons engineering. But the true story is one of determined, long-term cover-up, imposed because the instabilities of LX09 are intimately bound up with the theory and practice of nuclear weaponry: so far from being peripheral, they go to the heart of the system's credibility. Unwillingly for the most part, the US Government has admitted to 32 nuclear-weapons accidents over the past 35 years. One, at Lakenheath, Suffolk in 1956 was hidden for 22 years. Others, in Spain and Greenland, demanded huge clean-up operations. Holy Loch,

though, may be most significant in terms of the danger illuminated.

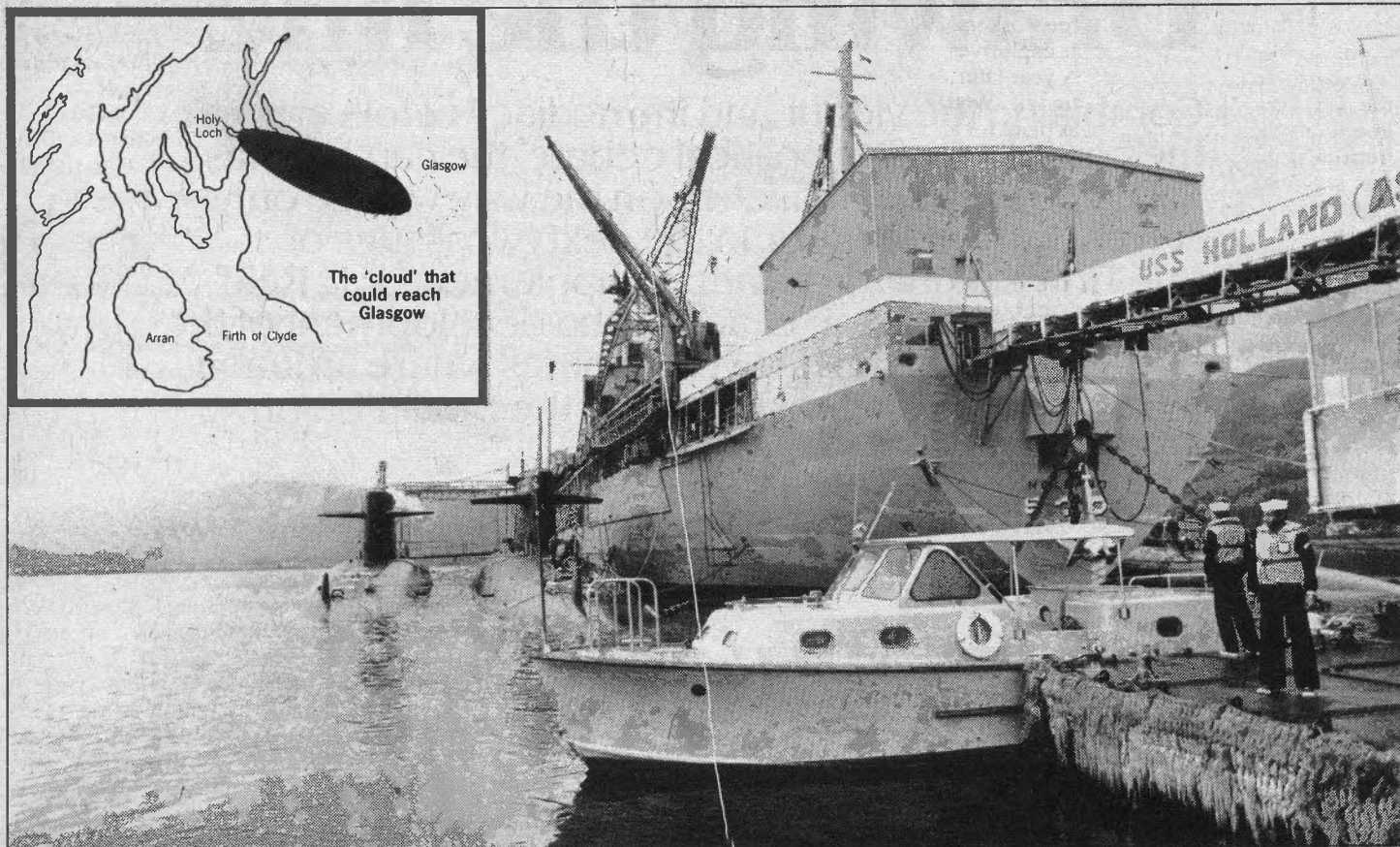
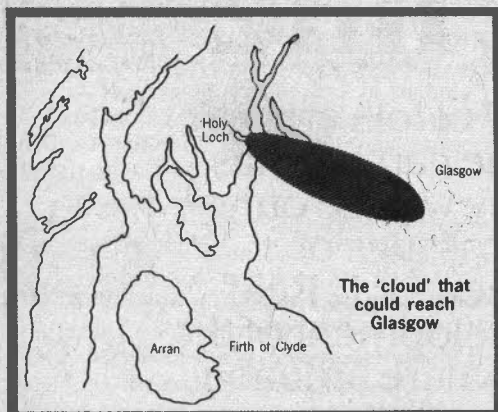
DESIGN OF LX09 began in the early sixties, with the demand for warheads to yield more power for a given size. This was the technological accompaniment to the move away from the first deterrent theory of Mutual Assured Destruction (MAD), towards various doctrines of 'graduated' or 'flexible' response. MAD collapsed because of the emptiness of threatening to destroy the world – with just a few very big, very 'dirty' bombs – in response to marginal transgressions by an enemy.

Speed of response, also, was integral to the new theories required to repair the plausibility of deterrence; and it led to a logic of lighter, faster-firing solid-fuel rockets, armed with lightweight multiple warheads – the logic of Polaris, Poseidon and Trident.

Smaller, higher-yielding warheads demand more power and less bulk in the chemical-explosive elements used to force nuclear material into explosive chain-reaction. LX09 was the answer, a plastic explosive solid for machining into 'shaped charges' on special lathes.

But practical high-explosives, combining within their make-up incompatible qualities, are physical chemistry's schizophrenics. Alfred Nobel paid with weight and bulk when he domesticated nitroglycerine into dynamite by mixing it with stabilizers: since his day, chemical manipulation has

A Poseidon submarine, one of 31 in the US fleet, glides up to the *USS Holland* in Holy Loch



become vastly more sophisticated, but the risk of 'pushing' explosives remains unchanged in principle.

Evidence now available shows that LX09 became suspect almost as soon as the first Poseidon warheads were built. It was found to have 'erratic behaviour when fabricated into parts for nuclear weapons'. It was manufactured with variable composition due to systematic error in production and testing, and one of its developers admitted it to be 'drastically unstable'.

By 1973, a report from the Lawrence Livermore weapons design laboratory described a 'high rejection rate of production parts machined from this material'. And a year later, another report went further:

LX09 displays some very undesirable properties . . . The reaction levels observed are generally quite high and independent of impact velocity. Thus LX09 exhibits both low threshold velocity for reaction and rapid buildup to violent reaction. Any accidental mechanical ignition has a large probability of building to a violent deflagration or detonation.

When it explodes, it all explodes – a direct consequence of its high power.

IN THE MOST BASIC sensitivity test, called 'H 50', metal weights are dropped from various heights on to samples of explosive, to see what impact will cause most of them to go off. For LX09, the height is just over 13 inches. And, three years further on, another report said that 'tests . . . indicate increased sensitivity with age'.

It should not, then, have been a surprise when LX09's instability caused a major accident. On 30 March 1977 a sample casting or 'billet' was being machined at the Pantex plant in Amarillo, Texas, where US nuclear warheads are built. A rubber mallet, as usual, was used to tap it into place on a lathe. It detonated, setting off other explosive present, and killed three workers.

All work on LX09 and similar explosives was suspended, then stopped. A year later, the US Navy began returning all W68 Poseidon warheads to the Pantex plant for a 'retrofit': although the programme itself was announced, the purpose of replacing LX09 with a new and supposedly safer explosive was kept secret.

The truth only came to light when compensation lawsuits from the Pantex victims' dependants came to trial, with disclosure of large quantities of scientific data. Even today, 'hundreds' of the 496 Poseidon warheads still contain LX09.

Earlier this year, a little-noticed US Congressional hearing elicited part of the background. Major General William Hoover, in charge of nuclear weapons production, said:

The problem (with Poseidon warheads) had to do with the particular high-explosive that was used in that system (sentences deleted from published version) . . . we determined that the high-explosive should be replaced. We were fortunate in that we had done some tests with an alternate high explosive, so that in this case we were able to make the substitution without having to do any more additional nuclear testing (sentences deleted) . . . So that gives us a great deal more confidence.

Given that the real nature of LX09 was

ignored and concealed for five years, claims for the safety of the 'alternate' may evoke scepticism, especially as the drive for more and more sophisticated warheads continues unabated. Recently, Gen. Hoover told us in an interview that the 'problems' were not to do with safety, but with 'deterioration' of the bonds between the explosives and the nuclear components. It was just 'co-incidence' that replacement of LX09 began a year after its use was banned.

The reported 'bonding' problem has been linked with a different kind of military concern – that warheads might not explode when fired. But Gen. Hoover denies that this would affect the Poseidon weapon's 'reliability of operation' within its 12-year operational life.

In fact, problems of preventing accidental detonation are closely related to those of ensuring nuclear detonation on demand. The first Polaris (pre-Poseidon) missiles were found to have a serious 'nuclear safety problem', requiring a new safety mechanism to be installed during the early sixties. In 1967, it was found that this device would normally malfunction, and in 1978 it was revealed that 75 per cent of Polaris warheads would have failed to produce a nuclear explosion.

The leisurely pace of the Poseidon retrofit scheme suggests that the problem in this case affects safety, rather than explosive capacity. The 'non-explosive' Polaris warheads were all replaced within a year.

Predictably, the US Navy declines to say whether the missile in the Holy Loch incident contained LX09. Also, its officials

decline to say whether the incident had been classified as a 'Broken Arrow' – which can involve nuclear detonation, non-nuclear detonation, radioactive contamination, theft and 'a public hazard, actual or implied' – or whether it was assigned to a lesser category such as 'Bent Spear' or 'Dull Sword'. They argue that to do so would be to break with US policy of refusing to 'confirm or deny the presence of nuclear weapons at any particular location'.

One day after the accident, they were asked about a rumour of a missile 'falling in the water', and denied it. Then residents of Dunoon, where about one-third of the population are connected with the US Navy, began to hear stories about the 'alert', and reporters began to assemble a picture of events which has been largely, though not wholly, substantiated by US Navy admissions.

Official and unofficial sources agree that the missile was vertical above the submarine, though there is no agreement on whether it was going to or from the depot ship. Unofficial sources say the crane-winch ran away because the operator was affected by drink, drugs or both. The USN claims 'mechanical malfunction' (but see accompanying story).

After the automatic brake brought the missile's fall to a violent halt, crewmen aboard both ships dived for cover. In the USN version:

The US Navy was never in any form of alert status, although personnel assigned were required to report to duty stations to correct the problems.



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Eyewitnesses insist that all crew reported to radiation-protected areas aboard the *Los Alamos*. No alarm, though, was issued to the local community, or to Strathclyde Police. Although the USN concedes that the missile fell 'perhaps 12-14 feet' and hit a 'storage cell', they claimed last week that investigation was still in progress.

Given the long-established deceptiveness of official claims about nuclear-weapons incidents, few experienced observers are likely to take seriously the USN's description of the incident as 'minor'. Last weekend, Congressman Ronald Dellums asked the Armed Services Committee in Washington to investigate the 'serious' accident at Holy Loch. Both of the other two Poseidon bases are in America, in Connecticut and South Carolina.

The British Ministry of Defence has recently received six copies of a report on the Pantex explosion. Officials will not say whether LX09 or related compounds are used in British nuclear-weapons designs. According to one well-informed US source, there has been at least one LX09 accident during British nuclear-weapons research.

MoD officials initially maintained that the Pantex explosion had no relevance to

'safety in storage and transport of service weapons', because it involved 'machining'. This they withdrew when it was pointed out that the only 'machining' involved a tap with a rubber mallet.

The American physicist Tom Cochran of the National Resources Defense Council – author of the *Nuclear Weapons Data Book* – says the LX09 clearly indicates 'a safety problem'. Colleagues of his believe that the accident has been classified by the USN at least into the second most serious category, 'Bent Spear'.

Robin Cook MP has asked the Defence Secretary to produce a Parliamentary report on the incident. But it seems likely that any British inquiry will be inhibited by the Anglo-American Status of Forces agreement.

Scottish disquiet about Holy Loch, of course, is likely to increase. But for the moment, at least, the official wall of silence is likely to be preserved. Any real discussion of the issues raised by the condition of the Poseidon warheads is likely to demonstrate that the technology of sophisticated nuclear response – although even more complex and expensive than MAD – is at bottom just as unstable and illogical. □

It's a real trip

DRUG USE among US servicemen at Holy Loch has been a recurrent problem for at least 10 years. Researching a story in 1972, I was offered cocaine, LSD, mescaline, marijuana and various forms of 'uppers' and 'downers' by US sailors in the Bay Hotel, Gourrock and the Jetty café (now gone).

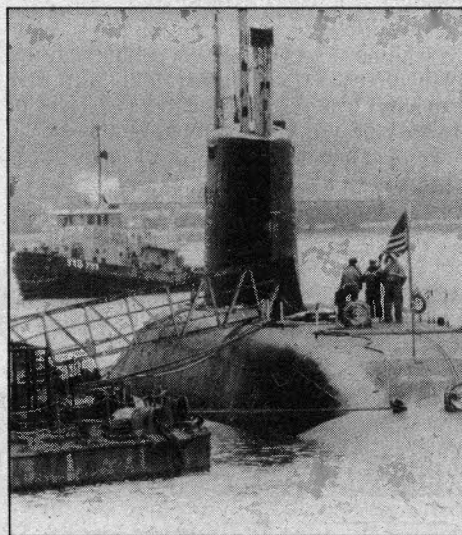
'Hell, man, what else are we supposed to do?' said a man on shore leave from the mother-ship *USS Canopus* (*Cannabis*, he called it). 'Nobody talks to us. The only girls we meet are whores, or the lowest of the low, and the locals all hate us.'

'I used to smoke a little grass before I came in (to the Navy) and when I got here I brought a stash with me. But I score hash in Glasgow now'. Another man said there were at least four dealers on the base selling 'about anything you could wish for'.

A sailor with Shore Patrol armband, night-stick and white helmet said: 'You don't hear about it, but every now and again they bring in special investigation people who act as narks. They work alongside you and then suddenly there's a bust and about six guys are sent Stateside.'

'We've got one guy in the brig now. He'll get sent home to see the Navy shrink, and if he plays it cool he'll get a medical discharge, which is almost an honourable discharge. They know the stress we've got.'

A submariner said: 'My life wouldn't be worth living without dope. But you can't sample on a sub, they'd smell it. I do uppers most of the time, but as a special treat, like when I'm on watch, I'll do a little mescaline. It's really a buzz to be tripping out and know that you're cruising the Arctic with Polaris missiles that could wipe out half of Russia – man, that's a real trip'.



The USN Public Affairs Office near Dunoon denied that there was any access to illegal drugs on the base, but confirmed that Dunoon police had passed one sailor to Shore Patrol after a raid on a civilian flat.

Three days later I was visited at 8am by two detectives from Greenock Central, who were 'interested' in my story. The US Special Investigation Unit had contacted the Ministry of Defence, who had passed the matter on. The senior, a sergeant, said that it was my duty to give him the names and addresses of UK citizens supplying drugs to sailors. Professional ethics aside, I could not do so, as I had been in contact with consumers, not suppliers. The sergeant did admit there was 'a problem' with drug use by US sailors.

The following year, when the carrier *USS Enterprise* arrived in the Clyde, I was invited to a party in a rented flat in Greenock. Sailors from Holy Loch were meeting friends from the carrier, who said that dope was obtainable at any port in Europe, but that Spain, because of its proximity to Morocco, was specially good.

Stuart Hoggard

YUGOSLAVIA

Protest from the provinces

PEGGY CRANE describes the strains in Yugoslavia's decentralised economy, made worse by the growth of the EEC around it.

THE 'WHITE CITY' of Belgrade looks rather grey these days, and it is not just the winter weather. Yugoslavia without Tito is facing economic and internal strains that are a harsh test of its unique brand of decentralised socialism.

Since his death in May 1980 the system of the collective rotating Presidency that Tito left behind him has worked smoothly. But something is missing. There is a vacuum at the centre that no-one has been able to fill. The portraits that hang on factory and office walls are still of the dead leader and few people can name the current holder of the Presidency, Mr Sergej Kraigher.

The significance of this may simply be that, in the last few years, it was only the personal prestige of Tito that kept in check the intrinsic conflict between the powers of central government and those vested in the six socialist republics and two autonomous provinces which make up Yugoslavia. In fact, the freedom exercised by a number of enterprises and industries means power has devolved even further. Devolution has been one means of coping with over 20 different national minorities (the largest single group, the Serbs, are less than half the population). On the other hand, if central government becomes too weak, the economic relationship between the republics, provinces and central government stops being dynamic and the *raison d'être* of each falls back into merely preserving or protesting about its own status.

This is what appears to have happened in Kosovo province where a wave of popular protest between the end of April and early March this year sent a shock throughout the country, sparking in the leadership a prompt and excessive clamp-down.

The shock was partly due to ignorance. Federal ministers appear not to have been informed by the province's leaders nor by the local League of Communists that trouble was brewing. Then, some 10,000 people, according to an eye-witness, demonstrated on the streets of Pristina, the Kosovo capital, and the militia and army moved in. Officially nine people – eight demonstrators and one militiaman – were killed, and 133 militiamen and 124 demonstrators injured, although unconfirmed reports suggest that the figures were higher. Over 200 people, mostly students, were sentenced to up to 15 years' imprisonment, though the verdicts may still be reviewed by a higher court.

TODAY, APART from the presence of a few armed militia and bored young soldiers, Pristina is back to normal. But the shock waves are still reflected in the Yugoslav press – which was blamed for blowing up the