



KING ETHELRED'S COLLEGE OF ENGINEERING

Established in 978 (ish)

DEPARTMENT OF DEFENSIVE ENGINEERING,
CROWN WORKS AND APPLIED STUBBORNNESS

THREE SUBMARINES AND TWO FRIGATES: A REVISED RISK ASSESSMENT FOR THE SOUTH ATLANTIC

Prepared on receipt of a budget line, being the fourth Crown Works South Atlantic paper, and the first to be conducted on the form the College uses for the chemistry store



A departmental risk assessment prepared under the College Fellowship Ordinance
(Hazards, Controls and the Owning Thereof) 1982

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*Fortitudine.
Ingenio.
Tea and biscuits.*



UPPER PIDDLINGTON - SEPTEMBER 2026

ABSTRACT

On 15 September 2026 the Argentine government sent its 2027 budget bill to Congress. Buried in it is a request for authority to arrange up to USD 3.5 billion of external credit: USD 2.3 billion for three conventional submarines, to be based at Mar del Plata, and USD 1.2 billion for two multi-mission frigates, to be based at Puerto Belgrano, repayable over not less than three years.[1,2] A newspaper called it one of the largest naval investments in decades.[3] An account on the internet, shown a government presentation of a naval base to be built at Ushuaia by 2029, concluded that with the present administration the Falkland Islands are Argentine.[4] The College, which has published three papers on the islands since the spring and had hoped to stop, has been asked whether the risk has changed.

This paper answers the question on the form the College uses for everything else that might hurt somebody: a risk assessment, with hazards, likelihood, consequence, existing controls, residual risk, an action owner and a review date. It first establishes what the budget line is, which is a request for permission to borrow, and what it would buy, which is five hulls; when they could arrive, which is the 2030s, by the yardstick of the Brazilian yard that would build the submarines; and who would crew them, Argentina having had no submarine at sea since 2017. It then places each hazard on the College's five-by-five matrix beside the weather and the sheep, and reads off the result.

The Department finds that USD 3.5 billion is a great deal of money and a small amount of navy; that it buys, at best, three submarines and two frigates in the middle of the next decade, and no landing ship, no tanker and no submariners; that the base at Ushuaia is 775 kilometres from Stanley, has a seventh of its money and no line in the bill, and will matter chiefly to Antarctica; that the interest and the crews would cost a tenth of the defence budget a year before a boat dived; and that the residual risk to the islands moves from 'remote' to 'remote, with a review date'. The Bursar, as action owner for everything with a price on it, has costed the controls and found that the most effective of them is already in the water and belongs to somebody else.

Research status. This is a fictional King Ethelred's College risk assessment. The budget bill, its figures and its conditions, the Scorpène negotiations, the Brazilian programme's dates, the state of the Argentine submarine and surface fleets, the loss of ARA San Juan, the Ushuaia base as announced, the F-16 and P-3 purchases, the British costs and the distances are real and referenced. The Department, its Fellow, the Major, the Bursar, the College's risk-assessment form and the hazard scores are not. The account that concluded the islands are Argentine is not named. Nothing in this paper is advice to either government, and the Islanders were not consulted, which the College notes is the usual arrangement.

Keywords: Falkland Islands; Argentina; 2027 budget; Scorpène; Itaguaí; ARA San Juan; Ushuaia; Mount Pleasant; risk assessment; likelihood; consequence; action owner; the Bursar; five hulls; the weather.

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The Bursar has read the budget bill with the attention he gives to anything that mentions a minimum repayment period, and has asked the Department to note that USD 3.5 billion repaid over three years is USD 1.17 billion a year, which is rather more than a quarter of what the borrower spends on defence altogether, and that he has seen this arrangement before, at the College, with a boiler.

The Department of Strategic Geography measured the distances in Chapter 5 and confirmed that Ushuaia is closer to Stanley than Río Gallegos by eight kilometres, which it describes as the first time Argentina has moved towards the islands since 1982, and by less than the length of the runway it would need to do it again. The Department of Applied Economics reviewed Chapter 3 and observed that a budget line is a promise to ask somebody else for money, which is also how the College funds its boiler.

The Trebuchet Research Group asked whether a submarine could be launched from a trebuchet. It was told that the yard at Itaguaí has a perfectly good slipway. It has minuted that the slipway has not been tested against a trebuchet and that it is available.

Mrs Enid Partridge of the Senior Common Room, told that Argentina was to have three new submarines, asked whether it had any old ones. The Department has answered her question in Section 4.3 and could not have put it more precisely.

Gerald was asked for the Department's copy of the previous paper. He has brought the Treaty of Union again, which he had out anyway, and a length of hose. The hose has been sent to the Department of Aeronautical Engineering, which has been trying to explain probe-and-drogue refuelling to the Registry since paper three.

Statement on impartiality. The College takes no side between the governments. Its position on the islands is the Islanders', as the first paper of this series found, and this paper is about hulls, calendars and money, not about who should decide. The humour is directed at budgets, presentations, accounts on the internet, the Bursar and the Department, and at nobody who has ever served in a submarine. The forty-four crew of ARA San Juan are recorded in Section 4.3 and nowhere else, and plainly.

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NOMENCLATURE

Symbol	Meaning
Budget line	A request in the 2027 bill for authority to arrange external credit of up to USD 3.5 billion for submarines and frigates; a permission to ask for a loan, once Congress gives it; not a purchase
Amortisation, minimum	Three years: the shortest period over which the bill allows the loans to be repaid; the Bursar has done the division
Scorpène	Naval Group's conventional submarine, built for Chile, Malaysia, India and Brazil; the boat Argentina has been negotiating for since 2024, unsigned
Itaguaí	The Brazilian yard, near Rio de Janeiro, that built Brazil's four Scorpènes and would build Argentina's; 3,426 kilometres from Stanley
Riachuelo	Brazil's first Scorpène: contract 2009, launched 2018, commissioned 2022; the yardstick for how long a submarine takes
Multi-mission frigate	A frigate that can do several things; the bill names two and no class; the press has offered candidates
Puerto Belgrano, Mar del Plata	The fleet's main base near Bahía Blanca, and the submarine base to the north; 1,461 and 1,522 kilometres from Stanley
Ushuaia Integrated Naval Base	A base at the bottom of Tierra del Fuego, announced for 2029 at USD 400 to 500 million, with commercial piers, Antarctic logistics, and cover from F-16s and P-3s; USD 142 million reassigned to it, no line in the bill, the rest promised from the surplus; 775 kilometres from Stanley
Mount Pleasant	The islands' air base: four Typhoons, a tanker, a transport, Sky Sabre, and the only fast-jet runway on the islands, per paper three
Likelihood, consequence	The two axes of the College's matrix, each scored 1 to 5; their product is the risk score; the weather is a 5
Existing control	Something already in place that reduces a risk; the Department counts distance, weather, the Royal Navy and the absence of a landing ship among them
Residual risk	What is left after the controls; the number the Bursar signs
Action owner	The person who must do something about a hazard; the Bursar for anything with a price, the Major for anything with a hill
Review date	When the assessment is next read; for this paper, on delivery of a submarine or in 2032, whichever is later
The form	The College's risk-assessment sheet, drawn up for the chemistry store in 1979 and used for everything since, including the kettle

1 INTRODUCTION

1.1 The budget line

The Argentine executive sent its budget bill for 2027 to Congress on 15 September 2026. Among the requests for authority to raise public credit is one that would permit the government to arrange external financing of up to USD 3.5 billion for the Navy: USD 2.3 billion 'for the incorporation of three conventional submarines', to be stationed at the Mar del Plata naval base, and USD 1.2 billion for 'two multi-mission frigates' at Puerto Belgrano, with a minimum amortisation period of three years.[1,2] The bill needs Congress and the authorisation needs a lender, and neither fact survived the journey to the headline, where the item became three submarines and two frigates in the 2027 budget, and one of the largest naval investments in decades.[3]

The Department does not dispute the second description. Argentina's whole defence budget for 2026 is about USD 4.3 billion, half of one per cent of its output, and a single authorisation of USD 3.5 billion is by that measure enormous.[5,6] It disputes the first. A line in a budget bill is not a navy. It is not a contract, a keel, a crew or a date. It is a permission to go and ask somebody for the money, and the College, which has asked people for money since 978, knows exactly how much of a navy that is.

1.2 The other announcement

On the same day the government presented its plan for an Integrated Naval Base at Ushuaia, at the bottom of Tierra del Fuego: a naval base, a pier, workshops, Antarctic logistics buildings and commercial berths, to be finished in 2029 at about USD 500 million, with air cover from the ex-Danish F-16s the College examined in its last paper and from the four ex-Norwegian P-3 Orion maritime patrol aircraft bought in 2023.[7,8,9] A private account posted the presentation with the caption that, with the present President, the Malvinas are Argentine.[4] The account is not named. The College notes only that the base's own list of functions, on the slide, begins with natural resources and Antarctica, and that the islands are not on it. It notes also that the base is not in the USD 3.5 billion nor, it emerged the next day, in the bill at all; Chapter 5 has the money it does have.[35,36]

1.3 The College's standing

This is the fourth South Atlantic paper since the spring, and the Department had asked to be excused a fifth. The first found that the islands' future is for the Islanders to decide and that a kilometre is not a deed;[10] the second took sanctions and dominoes; the third, five days ago, counted what Argentina would need to take and hold the islands by force and found it short of tankers, landing ships and submarines, in that order of ease of purchase.[11] This paper asks whether the budget line changes that arithmetic, and answers on the College's standard form, because the Bursar asked and because, it turns out, the form fits.

1.4 Scope and method

Chapter 2 sets out the form. Chapter 3 establishes what the money is and what it buys. Chapter 4 takes the submarines: the deal, the yard, the calendar and the crews. Chapter 5 takes the frigates and the base, and measures the distances. Chapter 6 is the register: eight hazards scored, controlled and owned. Chapter 7 tests the claims made about the announcement. Chapter 8 concludes.

College hypothesis. The budget line changes the South Atlantic risk assessment by the amount that five hulls in the 2030s, crewed by a service that has not dived a boat since 2017, change it, which is measurable, and by the amount that a headline changes it, which is not. The Department expects the residual risk to move by one review date.

2 THE FORM

2.1 The College risk assessment

The College's risk-assessment sheet was drawn up in 1979 after an incident in the chemistry store that the Bursar still describes as the fire and the Department of Fire, Energy and Retrospective Safety Engineering describes as its founding. It has been used since for every activity the College undertakes, including the kettle, the boating lake and the Trebuchet Research Group's annual open day, which has its own appendix. It asks five questions of every hazard: how likely, how bad, what already stops it, what is left, and whose problem is it. Likelihood and consequence are each scored from 1 to 5 and multiplied. A product of 4 or less is tolerable. A product of 5 to 9 needs a control and a name. Ten and above goes to the Bursar. Fifteen and above goes to the Bursar and the fire brigade.

2.2 The scales

Likelihood is scored for this decade: 1 remote, 2 unlikely, 3 possible, 4 likely, 5 the weather. Consequence is scored for the islands: 1 negligible, 2 minor, 3 moderate, 4 major, 5 the Islanders, the last being the College's term for any outcome in which the people who live there are not asked. The scales are the chemistry store's with the labels changed, and the Department has resisted the temptation to add a sixth column for the Bursar.

2.3 A budget line is not a navy

Before any hazard can be scored the Department must know what is actually being bought, and it applies a five-part test that it has found reliable since the College last bought a boiler. A ship exists when there is money, a contract, a yard, a crew and a date, in that order, and not before. A budget line supplies the first, conditionally. Chapter 3 examines the condition. Chapter 4 examines the other four.

Departmental observation. The form has never been applied to a foreign navy before. The Department notes that it fitted without amendment, that the column headed 'existing controls' turned out to be the longest, and that the Bursar signed the sheet before reading Chapter 6, which is his usual practice and in this case was correct.

3 THE MONEY

3.1 What the line is

The bill asks Congress to authorise the executive to carry out public credit operations, that is, to borrow abroad, up to the stated sums, for the stated purposes, over not less than three years.[1] Three things follow. The money is not in the budget; it is to be found from lenders, and Argentina's last two years of trying to find it for the submarines are the reason the contract is unsigned.[12,13] The authorisation lapses if Congress amends or rejects the bill, which Congress has done to budgets before. And a minimum repayment period of three years, if the full sum were drawn, means USD 1.17 billion a year against a defence budget of USD 4.3 billion, or twenty-seven per cent of everything the armed forces spend, for three years, on five hulls that would not yet have arrived. The Department assumes the period will be longer. The Bursar assumes nothing and has asked for the lender's name.

The context is a defence establishment that the same government has been cutting. Spending fell in real terms in 2025 to about three-quarters of one per cent of output; the 2026 budget abolished the National Defence Fund, which had guaranteed a slice of current spending for re-equipment since 2020; and in May 2026 the government replaced it with Plan ARMA, under which ten per cent of the proceeds of selling or leasing state assets goes to the armed forces.[5,14,15] The Department observes that a navy financed from privatisations and foreign loans is a navy that depends on other people's decisions, and enters that under existing controls.

3.2 What the line buys

USD 2.3 billion for three conventional submarines is consistent with the Scorpène package that the Argentine and French presidents outlined in 2024, reported at about USD 2 billion for three boats, and leaves room for weapons, training and the usual difference between a report and an invoice.[12,13] USD 1.2 billion for two frigates buys, at British prices, rather more than two Type 31s at the cap the Treasury set and the shipbuilder has since written down, and rather less than one Type 26.[16,17] The bill names no class. The press has attached Navantia's name to earlier talks and others to other talks, and the Department records the frigates as two hulls of a design not yet chosen, which is the most expensive kind.[18]

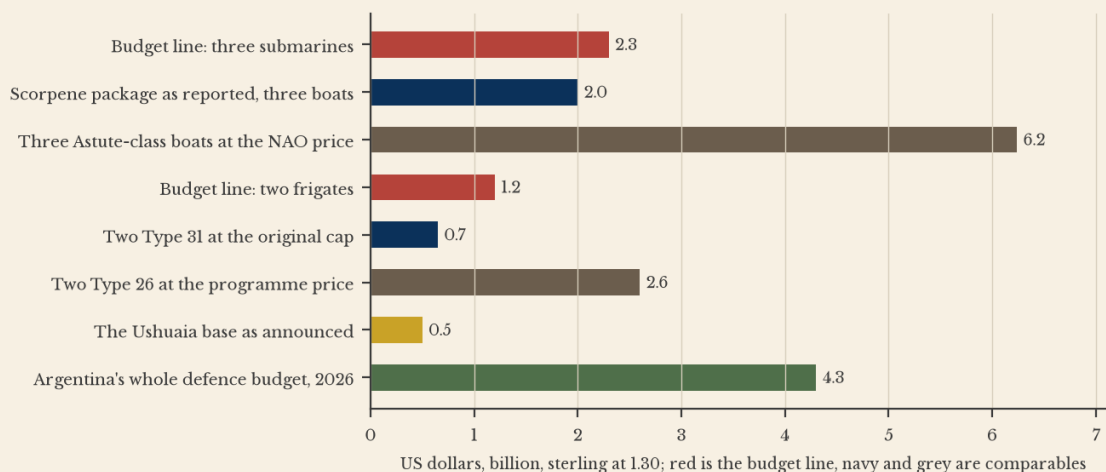


Figure 3.1 - The two budget lines against what the same money buys elsewhere, in US dollars. Three Astutes would cost nearly three times the submarine line; two Type 31s would leave change from the frigate line; the base costs a seventh of the whole. Sources in Appendix A.

Item	USD billion	What it is	Departmental note
Three conventional submarines	2.3	authorisation to borrow; Mar del Plata	the Scorpène package as reported: about 2.0
Two multi-mission frigates	1.2	authorisation to borrow; Puerto Belgrano	no class named; enough for two small frigates or most of one large one
Ushuaia Integrated Naval Base	0.4 to 0.5	announced 15 September; completion 2029; not in the bill	USD 142 million reassigned so far; the rest promised from the surplus; the only item with a date
Argentine defence budget, 2026	4.3	the whole of it, about 0.5% of output	the line is four-fifths of a year of everything
Minimum repayment	1.17 a year	if drawn in full over three years	twenty-seven per cent of the budget, per the Bursar

Table 3.1 - What the money is. The Department notes that the only item in the table with a completion date is the one that is not in the authorisation.

3.3 The people, and who pays for them

Nor is the money free, which is the point the Bursar asked to have made first. Argentina's country risk stood at about 485 to 508 basis points in mid-September 2026, which with American Treasuries near four per cent puts its dollar borrowing at roughly nine per cent a year; a French or German export credit, which is the kind of lender a submarine deal usually finds, might lend at five or six.[37] On USD 3.5 billion that is USD 210 to 315 million a year in interest alone, five to seven per cent of the whole defence budget, payable from the first drawdown and before a keel is laid, a crew is trained or a boat dives. The Bursar describes this as the part of the arrangement that the College understood with the boiler only after the second winter.

A budget line buys hulls. It does not buy the people in them, and the people are the larger sum. A Scorpène is run by thirty-one, six officers and twenty-five ratings, and a navy that keeps three at sea needs at least two crews for every boat at sea, a shore staff to train, relieve and repair them, and a school; Brazil sent its first crews to France for years before Riachuelo dived.[38,21] A modern frigate of the size the line could afford carries a core crew of about a hundred and five and a full complement nearer a hundred and fifty.[16] Five hulls therefore mean, at the Department's conservative count, some two hundred submariners and three hundred sailors afloat, and as many again ashore, every one of whom is paid every year, whether or not the boat is at sea, from a budget that does not currently pay for a single submariner at sea.

The running costs are the other half. Naval accountants commonly put the purchase price of a warship at a fifth to a third of what it costs over its life; the rest is fuel, spares, refits, weapons, training and people.[39] The Department uses a deliberately gentle rule of five per cent of the purchase price a year for operating and support, which on USD 3.5 billion is USD 175 million a year for thirty years. Add the interest above and the bill for owning the five hulls, before repaying a dollar of the principal, is USD 385 to 490 million a year, or nine to eleven per cent of everything Argentina spends on defence. Who pays it is the question the bill does not answer. The budget that would pay is the one that abolished its own re-equipment fund this year; the alternative is Plan ARMA's tenth of the privatisations, which the Department notes is a fund that pays out only when something is sold. The Bursar has written 'and then?' against the third year and underlined it.

3.4 The magazine

Nor does a budget line buy anything to fire. A Scorpène carries eighteen heavyweight torpedoes and eight submarine-launched Exocets, or mines in their place; Brazil's boats take the F21, for which Brazil was the first export customer and received its first batch in January 2020, two years before the first boat was commissioned.[41,42] Naval Group does not publish the F21's price. The United States Navy publishes its own: the 2025 budget bought seventy-nine Mk 48 heavyweight torpedoes for USD 333 million, about USD 4.2 million each, and the Department uses that as the going rate for a modern heavyweight weapon.[43] One outfit for three boats, fifty-four torpedoes with nothing in the racks ashore, no practice rounds and no missiles, is therefore about USD 230 million. Add the Exocets, the frigates' anti-ship and air-defence missiles and their lightweight anti-submarine torpedoes, which cost about two million dollars each when Europe last published a price, and a single magazine for the five hulls is in the region of USD 400 to 500 million, which is the price of the base at Ushuaia, once.[44]

This is not a theoretical omission. India commissioned six Scorpènes from 2017 and ran them for the best part of a decade on torpedoes older than their crews, the heavyweight weapon having been dropped in 2013 when its maker was blacklisted over an unrelated helicopter contract; the replacement order was placed in 2026 for delivery from 2028.[45] And Argentina's own last experience of submarine warfare, in 1982, was of torpedoes that left the tube and turned the wrong way because of a maintenance error.[27] The Department records the magazine as a control against H1, on the wrong side of the ledger again: a submarine without torpedoes is a very expensive way to be underwater, and the budget line does not mention a torpedo.

Item	USD million a year	Basis	Departmental note
Interest at 6 to 9 per cent	210 to 315	export credit to sovereign rate	payable from the first drawdown
Operating and support at 5 per cent	175	the Department's gentle rule; fuel, spares, refits, training	accountants would say more
Crews afloat	about 500 people	3 x 31 submariners x 2 crews; 2 x 150 sailors	paid whether at sea or not
Shore establishment	as many again	school, relief crews, maintainers, the base	the part nobody announces
Total before repaying the principal	385 to 490	9 to 11 per cent of the 2026 defence budget	the Bursar's 'and then?'
One magazine for five hulls	400 to 500, once	54 heavyweight torpedoes at the US price; missiles; lightweight torpedoes	the price of the base, and not in the line

Table 3.2 - What the line does not buy. The people and the interest take a tenth of the defence budget a year before a boat dives; the magazine is a one-off the size of the base. Every assumption is gentle.

Departmental finding. USD 3.5 billion is a request to borrow, not yet granted, for five hulls not yet contracted, of which two are not yet designed, and it buys neither the interest, the crews, the running costs nor a torpedo. It is a great deal of money for Argentina and a small amount of navy for anyone. The Bursar has entered it on the sheet as 'pending' and initialled it, which at the College is the highest form of scepticism.

4 THE SUBMARINES

4.1 The deal

Argentina has been negotiating with Naval Group for three Scorpène-class submarines since the Argentine and French presidents agreed an outline in 2024.[12] The boats would not be built in France. Brazil has a Scorpène line at Itaguaí, near Rio de Janeiro, built under its own 2009 agreement with the same company, and the plan is to build Argentina's boats there, with Brazilian industry as a partner and, according to some reports, a guarantor.[13,19] As of July 2026 the contract was unsigned, held up by the financing, which is what the budget line is for.[13] A German offer of three Type 209s, with state export guarantees, has fallen behind.[20] The Department records that the deal has been outlined, reported, backed, relegated and financed, and not signed.

4.2 The yard and the calendar

Itaguaí is the only yardstick that matters, because it is the yard. Brazil's programme was agreed in December 2008 and contracted in 2009; the first boat, Riachuelo, was launched in December 2018 and commissioned in 2022; the third was delivered and the fourth launched in late 2025.[19,21,22] Thirteen years from contract to a commissioned first boat, at a yard that was being built at the same time, is the Brazilian experience. A yard that now exists and has built four boats should be faster. It will also be busy: Brazil's next project there is a nuclear-powered boat for the 2030s.[19] The Department applies the yardstick as it stands and Figure 4.1 shows the result: if Argentina signs in 2027, its first submarine is commissioned around 2040, and the third after that. If the yard halves the Brazilian time, which would be a good performance, the first boat arrives in the mid-2030s. There is no reading of the calendar on which a submarine bought under the 2027 budget is at sea before the end of this decade.

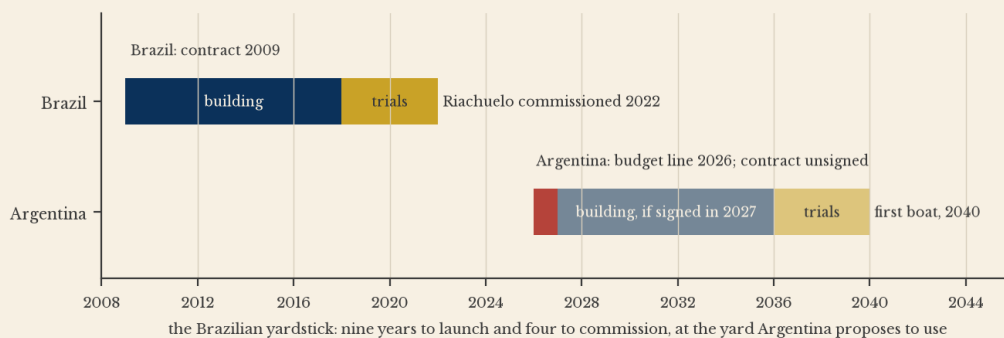


Figure 4.1 - Brazil's first Scorpène from contract to commissioning, and Argentina's calendar by the same yardstick, assuming a contract next year. The Department has drawn the Argentine bars paler because they are not yet true.

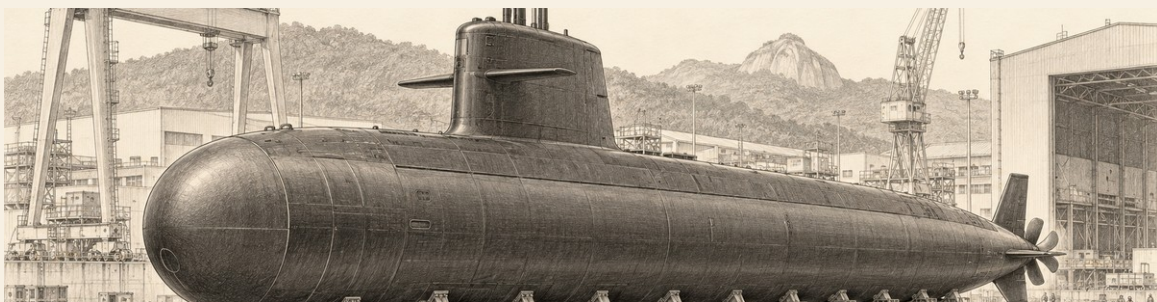


Figure 4.2 - Riachuelo, Brazil's first Scorpène, at Itaguaí: the boat Argentina wants, at the yard it would come from, at the pace it would come.

4.3 Mrs Partridge's question

Argentina's submarine force consists of two boats, neither of which can dive. ARA Santa Cruz, a TR-1700 commissioned in 1984, began a mid-life refit in 2016 that was halted, restarted and cancelled; she is inactive. ARA Salta, a Type 209 commissioned in 1973, has been unfit to navigate since about 2020 and is used alongside as a training platform for divers.[23,24,25] The third boat, ARA San Juan, was lost with all forty-four of her crew on 15 November 2017, after water entered through the snorkel and caused a fire in a battery compartment; the wreck was found a year later at eight hundred metres.[26] The Department states this once and plainly. Argentina has had no operational submarine since that day.

The consequence for the budget line is not sentimental. It is a matter of crews. A submarine service that has not sent a boat to sea for nine years has commanders who have not commanded a dive, engineers who have not run a battery under load, and a training pipeline with nothing at the end of it. Every navy that has rebuilt a submarine arm has found the boats the easy part; Brazil sent its people to France for years before Riachuelo dived, and the budget line mentions none of it, because budget lines buy hulls. The Department enters 'crews' in the register as a control, on the wrong side of the ledger for Buenos Aires.

4.4 What a submarine did last time

The Department is not dismissive of submarines, because the record of 1982 is a record of what they do. Argentina's Type 209 San Luis made two attacks on British frigates in May 1982, on the 1st and the 10th, and hit nothing: one torpedo failed to leave the tube, and the others tumbled because a technician had reversed the polarity of the cables between the torpedoes and the boat, so that their gyros ran backwards.[27] Her mere presence nonetheless kept the task force's helicopters from search-and-rescue and its escorts from sleeping. Her sister Santa Fe was caught on the surface off South Georgia at the end of April, disabled by helicopters and captured.[28] And on 2 May the British submarine Conqueror sank the cruiser General Belgrano, after which the Argentine fleet went home and stayed there.[29] One boat that could not hit anything tied down a task force; one boat that could sent a navy into port. The Department draws two conclusions. Three working Scorpènes in the 2030s would be a real hazard to anything that floats near the islands, and are scored accordingly. And the control against them is the same as in 1982, is nuclear, is already at sea, and belongs to the Royal Navy: six Astutes commissioned, a seventh building, at more than £1.6 billion each, any one of which is faster underwater than a Scorpène is on the surface.[30,31]



Figure 4.3 - HMS Conqueror returning to Faslane in July 1982, flying the Jolly Roger: the most effective existing control in Chapter 6, forty-four years before this assessment and still in the column.

Departmental finding. The submarines are real in outline, unsigned in fact, Brazilian in origin, and a decade away at the yard's own pace, and they would arrive in a service that has had nobody at sea in a submarine since 2017. When they come they will matter, as San Luis mattered without hitting anything. Until they come the hazard is scored 'remote' and the control against it is an Astute, which the Bursar has entered as 'not ours, thankfully'.

5 THE FRIGATES AND THE BASE

5.1 The fleet as found

The surface fleet the frigates would join consists of three MEKO 360 destroyers commissioned in 1983 and 1984, six MEKO 140 corvettes of the same decade, four Gowind-type offshore patrol vessels bought new from France between 2019 and 2022, an amphibious support ship of 1978, and the icebreaker *Almirante Irizar*, which is the most capable ship in the list and is designed to go the other way.[32] The third paper of this series counted the ships that could land a brigade and found one. The budget line does not add to it. Two frigates would be the first major surface combatants Argentina has bought new since the destroyers, and would be welcome in any navy; they escort, they hunt submarines, they defend against aircraft. They do not carry a brigade, and they do not refuel an F-16 through a boom.

5.2 The base

The Ushuaia Integrated Naval Base is older than the budget line. It has been proposed, in one form or another, for decades, and the present government has revived it with a completion date of 2029 and a cost of about USD 500 million.[33,34] The plan presented on 15 September shows a naval base, workshops, a pier, Antarctic logistics buildings and commercial berths, and lists its functions as surveillance and control of natural resources and sovereignty, logistic support for Antarctic operations, naval and air protection, commercial and civil berths, and the protection of strategic objectives in the south.[7] Air cover is to come from the F-16s and the P-3s, whose crews began working on joint procedures in August.[8,9] The base has, so far, USD 142 million re-assigned to it from the current budget, no line in the 2027 bill, a promise from the Economy Ministry that the surplus will pay the rest, and a Defence Minister who says the first of five or six contracts will be let and the diggers will start on the first working day of January.[35,36,40] The Department takes the base seriously: Chile has had such a pier at Punta Arenas for a century.

What the base does to the islands is a question of distance, and Figure 5.1 answers it. Ushuaia is 775 kilometres from Stanley in a straight line, Río Grande 702 and Río Gallegos 783. The F-16s already have Río Grande and Río Gallegos, both as close, both with runways. The P-3s, which are the aircraft that would actually look for a British submarine, gain a pier and a hangar 775 kilometres from the islands and 1,500 kilometres closer than their present home. That is the base's real military effect: it moves the patrol aircraft south and the fighters nowhere they could not already go, tanker problem included.



Figure 5.1 - Straight-line distances to Stanley. The base at Ushuaia is eight kilometres nearer than the air base at Río Gallegos and seventy-three further than Río Grande; the yard that would build the submarines is 3,400 kilometres away, and the submarines that would meet them are based 13,000 kilometres away and are there anyway.

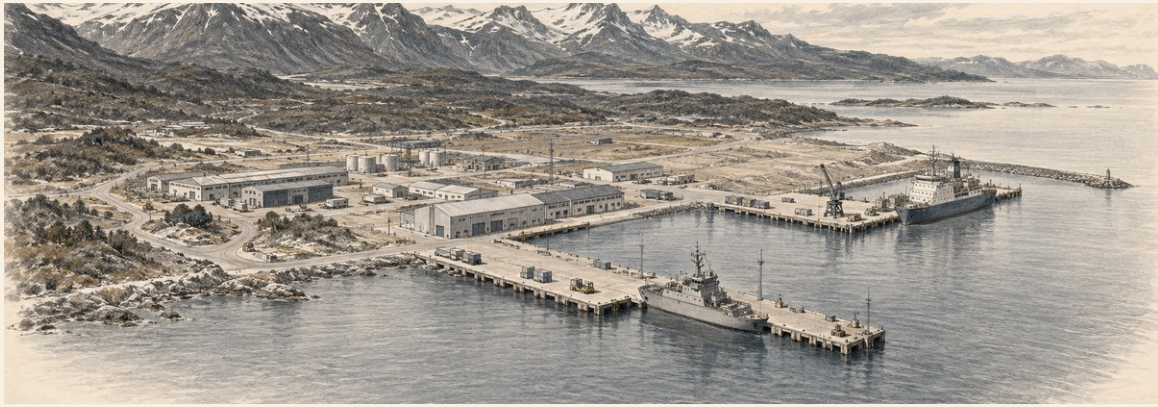


Figure 5.2 - The Integrated Naval Base as presented on 15 September: base, workshops, pier, Antarctic logistics buildings and commercial berths on the shore east of Ushuaia. The Department has read the list of functions and notes what is not on it.

5.3 What waits

The third paper counted what is at Mount Pleasant and the Department repeats the count without adjustment: four Typhoons, a Voyager tanker, an Atlas transport, the Sky Sabre air-defence system, an offshore patrol vessel, and the only fast-jet runway on the islands.[11] To that list this paper adds the one item the budget line makes relevant again, which is the Royal Navy's submarines, and the one item it does not change, which is the weather. Neither is new. Both are in the column.

A written answer in Parliament on 10 September, reported on the 17th, confirmed that the four Tranche 1 Typhoons at Mount Pleasant are to be replaced by four Tranche 2 aircraft from the existing fleet in the rotation planned for late November to early December 2027; the timetable predates the present tensions and is not connected to them.[46] Four out, four in, is a modernisation, whatever Buenos Aires called it,[47] and the Islanders' assembly calls the islands' defences state of the art.[48] A Tranche 2 Typhoon carries Meteor, a better answer to an F-16 than the Tranche 1 had, so the control against H3 improves from the end of 2027. Against a frigate it is of some use, and the Department is precise about how much: in September 2022, off Scotland, three Typhoons of 41 Squadron put Paveway IV bombs into the decommissioned frigate Boone, the first time the type had dropped live ordnance on a warship, with a frigate, a Poseidon, a destroyer and two Strike Eagles, against a hulk that had been emptied of pollutants and was not shooting back.[49,50] A laser-guided bomb requires the aircraft over the target, and a frigate that is shooting back is a different proposition. Storm Shadow, which the Tranche 2 also carries, is fire-and-forget against a set of coordinates and a stored image, not against a ship under way: it wrecked a landing ship and holed a submarine at Sevastopol in September 2023, both in dry dock, and it would reach a frigate alongside at Puerto Belgrano only from an aircraft that had flown most of the 1,461 kilometres itself, into a different war.[51] The same answer said that British F-35 Lightnings remain available for global tasking, which is the Department's cue to count what could arrive as well as what waits: an F-35B can be at Mount Pleasant within days by way of Ascension and brings no anti-ship weapon either: Meteor and SPEAR 3 are not expected on it before 2028, and the Joint Strike Missile, the first British anti-ship missile since Sea Eagle went in 2000 if anyone buys it, fits inside an F-35A, only outside an F-35B, and is in nobody's British inventory.[46,52,53] Some use, then; the frigates' natural opponent remains the Royal Navy. And it does nothing whatever to a submarine that has dived; that hazard belongs to the Astute and to the aircraft that hunt submarines, none of which is at Mount Pleasant. The Department has improved one control, left one alone, and declines to call four aeroplanes replacing four aeroplanes a reinforcement.

Departmental finding. Two frigates would be the first new major warships in forty years and would not land anybody. The base at Ushuaia is a seventh funded, Antarctic in purpose and 775 kilometres from Stanley, eight kilometres nearer than Argentina's existing runway. The Department records the eight kilometres as this week's measurable change in the strategic geography of the South Atlantic, and Strategic Geography has asked for it in writing.



Figure 5.3 - A Typhoon of 1435 Flight over Mount Pleasant, a Sky Sabre launcher in the foreground, as drawn for the third paper. What waits: four of these until late 2027, and four newer ones after it, on a timetable nobody in Buenos Aires wrote.

6 THE REGISTER

Table 6.1 is the College risk-assessment sheet completed for the South Atlantic on receipt of the budget line. Each hazard is scored for likelihood this decade and consequence for the islands, the existing controls are listed, the residual score is the Department's judgement after them, and the action owner is whoever the form says. Figure 6.1 places the hazards on the matrix. The sheet was signed by the Bursar on 16 September and countersigned by the Major, who added 'hold the hill' in the margin against every line, including the weather.

Ref	Hazard	L	C	Score	Existing controls	Residual	Owner and review
H1	Submarine attack on shipping or warships near the islands	1	4	4	no Argentine boat can dive; first new boat 2030s; no torpedoes in the line; Royal Navy SSNs; the P-3 gap on the other side	4, tolerable	Royal Navy; review on delivery of a boat
H2	Amphibious landing	1	5	5	one amphibious ship of 1978; no tanker for the F-16s; four Typhoons; Sky Sabre; the weather; paper three	4, tolerable	the Major; review 2032
H3	Air attack from Tierra del Fuego	2	4	8	Río Grande and Río Gallegos already exist; boom versus hose; Typhoons, Tranche 2 with Meteor from late 2027; F-35Bs on tasking within days; Sky Sabre	6, needs a name	the Major; annually
H4	Maritime interdiction with frigates and submarines, 2030s	2	3	6	not before the mid-2030s; the Royal Navy; Typhoons with Paveway IV against a frigate that is not shooting back, or Storm Shadow against one that is not moving; the fisheries patrol; the weather	4, tolerable	Royal Navy; review 2032
H5	A diplomatic settlement made over the heads of the Islanders	2	5	10	the Islanders, who were asked in 2013 and answered; paper one	6, needs a name	the Islanders; on any offer
H6	The loan is not found or the bill does not pass	4	1	4	two years of not finding it so far; Congress	4, tolerable	the Bursar, in sympathy; on the vote
H7	The weather	5	2	10	none; nobody has ever controlled it; paper three	10, accepted	the Met Office; daily
H8	Sheep on the runway at Mount Pleasant	4	1	4	the fence; the Islanders	2, tolerable	Estates; lambing

Table 6.1 - The register. Likelihood and consequence 1 to 5, product in the score column, residual after controls. Two hazards reach the Bursar's threshold of 10 and one of them is the weather, which the Bursar has accepted on the grounds that it was there before him.

6.1 Reading the sheet

The budget line adds two hazards to the register that were not worth a row last week, H1 and H4, and both sit in the bottom two rows of the matrix because the hulls that would create them do not exist and cannot exist before the middle of the next decade. Their consequence scores are honest: three working submarines near the islands would be a major hazard to anything afloat, and the Department does not pretend otherwise. Their likelihood this decade is remote, because the boats are a budget line, and the existing control against them is a class of nuclear submarine that has been in the water since 2010.

The hazards that matter most on the sheet are the two that the budget line does not touch. H5, a settlement over the Islanders' heads, is the only hazard that reaches the Bursar's threshold by anything other than rain, and its control is the Islanders themselves, who were asked in 2013 and answered, and whom the first paper of this series found to be the whole of the question.[10] H7 is the weather, which the College scores at 5 for likelihood on every sheet it has ever completed for the South Atlantic and which no navy has yet bought its way out of.

Departmental finding. After controls, every hazard on the sheet is tolerable except the weather, which is accepted, and a settlement over the Islanders, which has a name against it and is not this Department's to own. The budget line moves the residual risk to the islands from 'remote' to 'remote, with a review date'. The review date is the delivery of a submarine or 2032, whichever is later, and the Department expects to be reminded of it by the Bursar.

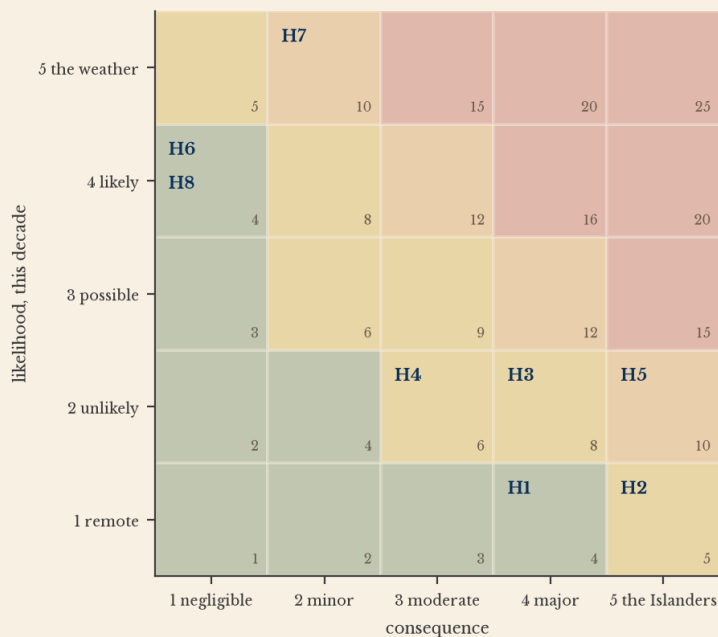


Figure 6.1 - The hazards of Table 6.1 on the College's matrix, before controls. The budget line's contribution is H1 and H4, both in the bottom rows, both with a review date. The weather remains the only hazard in the top row, as it has been on every South Atlantic sheet since 1982.

7 THE CLAIMS, TESTED

Table 7.1 tests each claim made about the announcement, in print or on the internet, against Chapters 3 to 6, in the College's five categories: verified fact, sourced estimate, reasoned inference, disputed claim, or College fiction.

Claim	Made by	Evidence	Verdict
Three submarines and two frigates are in the 2027 budget	the headline	a request to borrow for them is in the bill; the authority and the purchase are not	true of the line, not of the boats
The base at Ushuaia is funded	the President, 4 September	USD 142 million reassigned; no line in the bill; the surplus promised	a seventh true; the rest is a promise with a start date
It is one of the largest naval investments in decades	the press	USD 3.5bn against a USD 4.3bn defence budget	verified, relatively; the last one was the MEKOs of 1983
The submarines will be based at Mar del Plata	the bill	the bill says so; the base exists	verified, for the 2030s
The frigates are multi-mission	the bill	no class named; all modern frigates are	true and empty
The base at Ushuaia will have F-16s and P-3s	the government	the presentation; August interoperability work	verified as a plan; 2029
With the President, the Malvinas are Argentine	a private account	the base's own function list; 775 km; the Islanders' answer of 2013	disputed, and not by this College first
USD 3.5 billion buys a navy	implied	five hulls, no crews, no landing ship, no tanker, no date	reasoned inference: it buys five hulls in the 2030s
Britain is reinforcing the islands	Buenos Aires, reading a written answer	four Tranche 1 Typhoons out, four Tranche 2 in, late 2027; a timetable older than the tensions	disputed; the same four, newer
The risk to the islands has changed	the question put to the College	Table 6.1	by one review date

Table 7.1 - The claims tested. The Department's verdict on the headline is that it is true of the paper the bill is printed on.

Departmental observation. The hypothesis of Chapter 1 predicted a change of one review date. The register produced a change of one review date and two new rows in the bottom of the matrix. The Department regards this as a confirmed hypothesis and the Bursar regards it as two more rows.

8 CONCLUSIONS

- The 2027 budget bill asks Congress to let Argentina borrow up to USD 3.5 billion for three submarines and two frigates. It is a request for permission to borrow, subject to lenders and to Congress, for a submarine contract that has been unsigned for two years for want of exactly this financing, and for frigates of no named class.
- By the yardstick of the Brazilian yard that would build them, the first submarine is commissioned in the mid-2030s at best and around 2040 at the yard's own pace, into a service that has had no boat at sea since ARA San Juan was lost in 2017. The hulls are the easy part.
- Two frigates would be the first new major warships in forty years and would land nobody. The base at Ushuaia has a seventh of its money, a start date in January and no line in the bill; it is Antarctic in purpose, due in 2029, and eight kilometres nearer Stanley than the runway Argentina already has.
- On the College's form the budget line adds two hazards to the register, both remote this decade and both controlled by submarines that already exist and are not Argentine, and, from late 2027, by four newer Typhoons that were coming anyway. The interest and the crews would cost about a tenth of the defence budget a year before a boat dived, from a budget that has just abolished its own re-equipment fund, and a single magazine would cost the price of the base. The two hazards that matter, the Islanders' wishes and the weather, are unchanged by it.
- The residual risk to the islands moves from 'remote' to 'remote, with a review date'. The review date is the delivery of a submarine or 2032, whichever is later.

Principal finding. USD 3.5 billion is a great deal of money and a small amount of navy. It buys five hulls in the 2030s, if it is borrowed, and none of the things that would make them a threat to the islands before then, which are crews, a landing ship, a tanker and the weather's consent. The Department has revised the South Atlantic risk assessment by one review date, signed it, and asked the Bursar not to commission a fifth paper until something is launched.

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Sources were consulted on 17 September 2026. Sterling is converted at 1.30 US dollars. The College, the Department, its Fellow, the Major, the Bursar, the form and the scores are fictional; the bill, the boats, the yard, the base, the distances and the weather are not.

APPENDIX A - SAMPLE CALCULATIONS

A.1 The repayment

USD 3.5 billion drawn in full and repaid over the bill's minimum of three years is USD 1.167 billion a year before interest. Against a 2026 defence budget of USD 4.3 billion that is 27 per cent. The Department assumes a longer term and a lender; the Bursar assumes a longer term, a lender and a guarantor, and has written 'Brazil?' in the margin. Interest: at six per cent, USD 210 million a year; at nine, USD 315 million; against USD 4.3 billion, 4.9 to 7.3 per cent of the defence budget. The rates are round figures from a country-risk spread of about 500 basis points; nobody has seen a term sheet.

A.2 The distances

From	To Stanley, km	Note
Ushuaia	775	the base of 2029
Río Grande	702	air base; nearest
Río Gallegos	783	air base; paper three measured 789 to the runway
Puerto Belgrano	1,461	the frigates
Mar del Plata	1,522	the submarines
Itaguaí	3,426	the yard
Faslane	12,932	an Astute, which does not mind
Portsmouth	12,584	the surface fleet

Table A.1 - Straight-line distances by the haversine formula on a sphere of 6,371 km. Coordinates in the figure script. Nobody sails in a straight line, least of all in the Drake Passage.

A.3 The people

Submariners: 3 boats x 31 x 2 crews = 186 afloat, rounded to 200 with the boats' own reliefs. Sailors: 2 frigates x about 150 at full complement = 300. Shore establishment taken as equal to the afloat strength, which is the low end of any navy's ratio. Operating and support at 5 per cent of USD 3.5 billion = USD 175 million a year; with interest, USD 385 to 490 million, 9.0 to 11.4 per cent of USD 4.3 billion. Naval accountants would use a higher rate; the Department has used a lower one so that the conclusion survives the argument. The magazine: 3 x 18 = 54 heavyweight torpedoes x USD 4.2 million = USD 227 million; 24 submarine-launched Exocets and the frigates' missiles and lightweight torpedoes at one to three million each bring one outfit to USD 400 to 500 million, with no reloads and no practice rounds.

A.4 The comparables

Figure 3.1 converts sterling at 1.30. Three Astutes at £1.6 billion each are £4.8 billion, USD 6.2 billion. Two Type 31s at the original £250 million cap are £0.5 billion, USD 0.65 billion; the ship-builder has since taken provisions of £330 million on the five-ship programme, so the true figure is higher and still under the frigate line. Two Type 26s at £1 billion each are USD 2.6 billion. The Scorpène package is as reported, about USD 2 billion for three boats, before weapons and training.

APPENDIX B - THE BURSAR'S CARD

For Fellows asked about the budget line at High Table, in the Senior Common Room, or on the internet.

If asked	Answer
Has Argentina bought three submarines?	No. It has asked Congress for permission to borrow for them, and nobody has yet lent the money. The contract has been unsigned since 2024 for want of it.
When would they arrive?	The 2030s. Brazil's first took thirteen years at the same yard. Halve it and you are still past 2033.
Does Argentina have any submarines now?	Two, alongside, neither able to dive. None at sea since 2017.
And the frigates?	Two, of no named class, for USD 1.2 billion, at Puerto Belgrano, in the 2030s. They do not carry a brigade.
What about the base at Ushuaia?	USD 142 million so far, no line in the bill, diggers promised for January; Antarctic; due 2029; eight kilometres nearer Stanley than the runway they already have.
Who pays to run them?	The same USD 4.3 billion budget, or the privatisations. Interest and running costs come to about a tenth of it a year before a boat dives.
Do the boats come with torpedoes?	No. A magazine for five hulls is about the price of the base, and India ran its Scorpènes for a decade without a modern one.
Has the risk to the islands changed?	By one review date. The weather and the Islanders are where they were.
What is the control?	An Astute, which is already at sea and is not ours to pay for. From late 2027, four newer Typhoons that were coming anyway, or F-35Bs within days: good against an F-16, some use against a frigate, none against a submarine.
Will there be a fifth paper?	Not until something is launched.

Table B.1 - The Bursar's card. To be produced when the conversation turns to the South Atlantic, and withdrawn when it turns to the boiler.

APPENDIX C - THE FORM

For the record, the College risk-assessment sheet as drawn up in 1979 and completed for the chemistry store that year, reproduced so that the reader may judge whether the South Atlantic was assessed on the same terms. It was.

Ref	Hazard	L	C	Score	Existing controls	Residual	Owner and review
C1	Fire	3	5	15	the door; the sand bucket; the Bursar	10, to the brigade	the Bursar; termly
C2	Spillage	4	2	8	the tray; the apron	4	the technician; weekly
C3	Unauthorised entry	2	3	6	the lock; Gerald	6, Gerald has the key	the Porters; on incident
C4	The kettle	5	2	10	none that have worked	10, accepted	Catering; daily
C5	The Trebuchet Research Group	4	4	16	distance	12, to the brigade	the Major; open day

Table C.1 - The chemistry store, 1979. The Department notes that the kettle scores the same as the weather and that both are accepted, which is the College's whole philosophy of risk.

APPENDIX D - DEPARTMENTAL NOTE

The Department of Defensive Engineering, Crown Works and Applied Stubbornness holds that a hill is kept by not leaving it, that a navy is counted in hulls at sea and not in lines in a bill, and that a risk assessment is a document for reading what has changed and not for frightening the reader. It has now written four papers on the South Atlantic in a season and has asked, through the Major, that the Bursar commission the fifth only on the launch of a boat, the signing of a contract, or the arrival of a landing ship, whichever is first, and that the weather be left out of it.

The Department records its respect for the forty-four of ARA San Juan and for every submariner of every navy, and its view that the hardest part of the budget line, if it is ever drawn, will not be the money.

Persevera Etelred