

The “Île Longue” naval base

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In November 1959, the new French Government decided that the strategic nuclear force¹ in its ultimate naval variant would be, from then on, made up of a group of submarine units “*having the capacity to launch missiles*”. On Christmas Eve 1964, Parliament passed the second 5-year military programming Act which stated clearly in its preamble that “*three [nuclear-powered] submarines carrying each sixteen ballistic missiles are planned, the first of which to be operational in 1970*”².

To build such a force is the mission of an organization called *Coelacanth*, created in July 1962. It is a very light structure, whose mission is to coordinate the actions of multiple stakeholders, both military and industrial, public and private, involved in this gigantic project. *Coelacanth* was created because politicians, navy officers and engineers had drawn major conclusions not only from the scientific and technical dead ends but also from the organizational weaknesses of the previous project called Q.244 (a submarine powered with natural uranium and deuterium)³. Due to the technical conditions of the time – as the predictable range of the missiles was limited and the transit time to reach the assigned patrol areas was significant – it would take three operational nuclear submarines to ensure permanent presence at sea of one unit ready to launch its missiles⁴.

But where should the submarine base be located? Its role and precise remit were key determining factors. Admiral Georges Cabanier, the Chief of Naval Staff and moreover a submariner, listed the requirements. “*The harbour has to be able to provide logistical support to any submarine, i.e. repairs, maintenance, supply, electrical power, barracks, places to relax. It must be equipped in such a way as to permit the handling, storage and maintenance of the missiles and nuclear warheads, the start-up of nuclear reactors, the withdrawal and disposal of radioactive effluents, the replacement of reactor cores. (...) The protection of the naval base is obviously very important. Special attention will be paid to the protective security around the submarines and their operational infrastructure. These measures are*

The idea for this paper came in 2010 from talks with Mr. Yves Cariou, when we were working together on the book *L’Île Longue Histoire d’un site exceptionnel* (Palantines, Quimper, 2010, 192 pages). This paper owes much to him. It also benefited from Mr Guy de Bakker and ²Mr. Philippe Strub’s proofreading. I dedicate them this text.

¹ In the strategic nuclear forces (FNS or Forces Nucléaires Stratégiques), all the weapons are designed to enforce deterrence. Gradually the Strategic Air Forces (FAS created on 14th January, 1964), with the squadrons of bombers *Mirage IV* and the SSBS (ground-to-ground ballistic missile) of Albion, began to emerge; then the Strategic Oceanic Force (FOST created on 1st March, 1972) with nuclear submarines.

² *Journal Officiel de la République française (JORF)*, December 24th, 1964, p. 11 500-11 501. Program law No. 64-1270 “*relative à certains équipements militaires (relative to certain military equipments)*”, preamble. The Act of May 5th, 1963, planned the “*construction of a submarine having the capacity to launch missiles*”.

³ Maurice Vaisse, “Le Q. 244, le premier sous-marin atomique français”, *Revue historique des Armées*, No. 180 , 3/1990, p. 35-46 . Patrick Boureille “La marine française et le fait nucléaire”, contemporary history PhD, Sorbonne Paris IV, 2008, 1166 p., forthcoming.

⁴ Marc Theleri, *Initiation à la force de frappe stratégique 1945-2010*, Paris, 1997, Stock, p. 217-218. Jacques Villain, *La force de dissuasion française. Genèse et évolution*, Paris, 1987, Docavia /Larivière, p. 197-198.

essential for the credibility of deterrence and the protection of valuable means against enemy attempts”⁵.

As in the case of the studies behind the construction of the nuclear testing centres, if the options seem at first numerous, their number reduced quickly because the requirements justified relinquishing many sites initially selected⁶. A natural and safe harbour, easy to protect from intruders and located in deep water in order to allow submarines to manoeuvre easily, was indeed imperative. Nearby, sufficient land area had to be provided to receive not only the missile silos⁷ and an administrative and operational centre, but also barracks for permanent staff, firefighters, marine commando units in charge of the protective security of the base, etc.

The Mediterranean is a narrow sea which is not suitable for the missions of SSBN (nuclear ballistic missile submarine). Very closely monitored near the Strait of Gibraltar – its sole western opening – its urbanized coasts increasingly devoted to tourism does not provide suitable locations. The decision was therefore made to set up the base on the Atlantic coast. It soon became clear that the Channel coasts didn't match the requirements. Cherbourg is a naval base where all the submarine building activities are concentrated and it opens out to one of the world's busiest seaways. The choice was consequently limited to Brittany, and more specifically to its western part called the Finistère. There, the Île Longue peninsula was finally preferred to the Douarnenez Bay⁸. Besides, the close proximity of the naval dockyards of Brest, which include the Direction of shipbuilding and naval weapons (DCAN) and its subcontracting or co-contracting companies, weighed heavily on the choice⁹. Finally, the fact that the Île Longue site is eight kilometre from the urban area of Brest was a decisive safety factor.

From a military point of view, the transit passage (on the surface) of a submarine through the channel into the harbour of Brest, from the future submarine base to, or from, the edge of the continental shelf, is not very long. The proximity of the naval airbases of Lanvéoc-Poulmic (helicopters), Landivisiau (interceptors) and Lann Bihoué (maritime patrol aircrafts), added to the presence nearby of the Atlantic Squadron (anti-submarine warfare frigates, minehunters) and of a squadron of conventional submarines (based in Lorient, this squadron is essential for SSBN's training), all this was decisive factors in the choice of Île Longue as the future nuclear submarine harbour.

⁵ Georges Cabanier, "Le sous-marin nucléaire français", *Revue de défense nationale*, avril 1966, p. 595-605, p. 599.

⁶ To compare with the Pacific Testing Centre, see Patrick Boureille, " La Marine et le choix du site du Centre d'expérimentations nucléaires du Pacifique entre 1957 et 1963" *Les bases de la puissance*, IX^{es} journées d'histoire maritime franco-britannique, service historique de la marine, UMR Roland Mousnier et UMR IRICE, Cherbourg, 2-4 décembre 2004. To compare with the Plateau d'Albion SSBS site, see Joel Carrière, *Le plateau d'Albion : histoire de la composante terrestre des forces nucléaires stratégiques françaises (1965-1996)*, Université Paul Valéry, Montpellier III, juin 2000.

⁷ Both the launchers and the nuclear warheads are stored separately, in silos located in the Île Longue base. Guenvenez is a pyrotechnics plant situated 3 miles away.

⁸ Sheltered by the Cap de La Chèvre, near the cove of Saint-Nicolas and south of the headland of St. Hernot, the Douarnenez Bay opens out to the Atlantic Ocean. It can be easily protected. Although the narrowness of the channel into the harbour of Brest is a handicap, deterrence, which is based on the threat represented by the SSBN at sea, is, in fact, effective against any threat on the naval base.

⁹ Marie-Thérèse Cloître, *Histoire de Brest*, CRCB (Centre of Breton and Celtic Researches) – UBO (Western Brittany University), Brest, 2000, p. 253-275. Alain Boulaire, Patrick Boureille, Geneviève Emon-Naudin, *L'arsenal de Brest. Quatre siècles d'industrie navale*, Palantines, Quimper, 2013, 240 p.

On February 15th, 1965, during an official visit to the French Naval Academy at Lanvéoc Poulmic, President Charles de Gaulle insisted on the leading role the Navy would play, from then on, in the defence of France¹⁰. Later on, when he sailed back to the Préfecture maritime on board the oceanic minesweeper *Colmar*, he ordered the commanding officer to make a detour via the Pointe des Espagnols. While standing on the bridge, he turned to the personalities who accompanied him and, pointing to the inner side of the Bay of Brest, he declared: "*Maybe geography made Brest a cornerstone of our destiny*"¹¹. Everybody understood from the words of General de Gaulle that Île Longue would become the operational base for SSBN, a sort of French "Holy Loch"¹². For those who were still ignoring it, the local newspaper *Télégramme de Brest* dated February 16th clearly announced the Head of State's choice.

1. The construction of the Île Longue naval base

The decree ordering the construction of the SSBN home port was issued in June 1965 (it was not published in the *Journal officiel*)¹³. At the end of the year, Admiral Patou, the Deputy Chief of Naval Staff, defined the major directions, phases and requirements for the development of the naval part of French deterrence: "*Construction at the Île Longue home port of all necessary equipment and facilities required for the maintenance, between two patrols, of the SSBN (it is the so-called solution B of the general layout plan of the base) and creation of a SSBN squadron located on two separate submarine bases: one at Ile Longue and one at Brest.*" The entry into service of the base was scheduled on October 1st, 1969¹⁴.

Representing an extremely rare case, the accelerated expropriation procedure for matters of extreme urgency was applied as soon as the end of 1966¹⁵. Immediately, the Public Lands Administration undertook the assessment of the work required to build the base. The families whose lands had been expropriated – and those living in the so-called "blue areas" situated next to them – had no hope to quash the procedure, and the challenge for them was, from then on, to obtain a substantial financial compensation for their loss. Yet it was considered appropriate to limit the size of the military

¹⁰ Charles de Gaulle, *Discours et messages*, volume IV *Pour l'effort 1962-1965*, Paris, 1970, Plon.

¹¹ Maurice Amman (1904-1988), *Mémoires*, service historique de la défense, sd, p. 243. *Le Télégramme de Brest*, February 16th, 1965.

¹² Since 1961, Holy Loch, near Glasgow in Scotland, has been the homeport in Europe for American Polaris-type nuclear-powered submarines. According to the daily paper *Combat* dated August 30th, 1965, "La presqu'île de Crozon sera la base des sous-marins atomiques français",

¹³ Philip Attard, "Alain Juppé à l'Île Longue, 40 ans après *Le Redoutable*", *Ouest France*, 30 November 2010.

¹⁴ Service historique de la défense, département des archives de la marine à Vincennes (SHD/M/V), 3BB⁸ ORG 39, note of introduction 36 EM/COE/ORG, 12 October 1965 (Secret), signed by the Vice-Admiral Rousselot = correction 2.

¹⁵ In case of emergency, the judicial proceedings concerning an expropriation is accelerated: the statutory timeframes for filling an application with a court is reduced, and the possession of the expropriated property takes place as soon as the payment of a provisional indemnity is made. In case of pressing emergency, the possession of the expropriated property takes place immediately after the pronouncement of expropriation for reasons of public purpose. This possession comes into force as soon as a decree classifying it in the public interest, and issued after consultation of the Conseil d'État, is published (art. L. 15-6 of the Expropriation Code). The operations that may justify the pressing emergency are exhaustively defined in the Code (art. L.15-6 and L.15-9): it includes works connected with the National Defense, works in making highways, main roads and railways.

areas as much as possible (the establishment of a SSBN base in the Bay of Brest aroused violent reactions from the local people, especially from the Breton fishermen who thought that the scallop areas would be destroyed by nuclear pollution!).

But in 1967, when the Île Longue peninsula came under the responsibility of the French department of coastal engineering (la Direction des Travaux Maritimes), the negotiation stage to prevent the project from succeeding was already completed¹⁶. The same thing occurred, at about the same time (March 1966) but on another scale, with the construction of the first equipment of the so-called "Plateau d'Albion" in Haute-Provence: the planned extension of the SSBS base covered a triangle of 36,000 hectares between the towns of Montbrun in the département of Drôme (north of the base), Omergues in the Basses Alpes (east) and Rustrel in the Vaucluse (south)¹⁷. It clearly shows that there was a competition between the Albion and the Île Longue sites – perhaps an attempt to get rid of one of the projects. The debate around the SSBS site of Albion was overshadowed when the first atomic test was detonated, on 1st July, 1966, at the Pacific Testing Centre. In 1967, nuclear matters became a key international debate when large-scale demonstrations against war occurred all around the world. Accordingly, to promote the interests of the expropriated families of Crozon (the Crozon peninsula encompasses Île Longue) was no more a priority and it was in fact driven to the background. After November 5th, 1967, the Île Longue naval base was seldom mentioned in the media. It occurred however in April 1969 when the weekly publication *L'Express* explained to its readers that in addition to police dogs, some porpoises were specially trained, in the Arcachon Bay, to detect any intrusion of combat divers in a naval base and to warn (using their short nose to ring a gong!) the commando units in charge of its protective security¹⁸.

In a region such as Brittany, characterized by a large economic gap that the local authorities wanted to bridge, the development of civil nuclear energy had indeed major potential in terms of activities and employment. The Brennilis nuclear power plant was a rather good example of the ambivalent feelings vis-à-vis atomic energy: one could be both a convinced Gaullist, attracted to the idea of regional economic growth, and doubtful, to say the least, about deterrence¹⁹. The same thing could be said of the military nuclear activities in the Crozon peninsula. The creation of a substantial number of jobs, as soon as the first contracts were signed with building and civil engineering works consortia (in August 1967), led to a situation where the opposition to the construction of the Île Longue

¹⁶ SHD/M/V 3BB⁸ SFM 32 Information Note No. 32 of 20 December 1966: 1967 budget. No. 1102 EMM/CAB. FRF279 million were registered on the 1967 budget (for the equipment of the Ile Longue base and the VLF station located in Rosnay [département of Indre] only). In 1968, 184 million were registered for the same purposes.

¹⁷ Jacques Isnard, " En haute Provence, l'armée a commencé l'acquisition des terrains pour la base d'engins stratégiques", *Le Monde*, March 1st, 1966, p. 7.

¹⁸ "L'île aux sous-marins", *L'Express*, April 28th, 1969. In 1967, as part of a scientific program on the military use of marine mammals (NMMP), Tuffy, a dolphin of the US Navy, was trained in the San Diego Bay to assist and rescue divers who might be in difficulty. Other dolphins, and California sea lions, also ensured the protective security of ports, bases and ships, the tracking and recovery of training targets and the location of mines.

¹⁹ The Brennilis nuclear power plant (also called EL 4) was located in the Monts d'Arrée, notable for its barren landscape and peat marshes. It was built there to ensure the economic development of the poor area. It became operational in 1967. Due to the phasing-out of heavy water reactors, the plant was closed on July 31st, 1985. As a result, there were strikes and street demonstrations by the local people who called for the construction of a second nuclear power plant in order to protect local jobs...The protests took place six years after the abandonment of the Plogoff nuclear power plant project!

naval base was progressively relegated to the background. In fact, the building site soon became the largest in Europe²⁰. Three entities had to be created there: in the north, an area of dry docks and piers; in the central part, a pyrotechnical area with silos for vectors, silos for nuclear warheads and assembly workshops; in the south, near the village of Rostellec, some barracks, an headquarter and an administration centre. Two major groups were in charge of the civil engineering works. The first, led by two companies (the Entreprise des Grands Travaux Hydrauliques [EGTH] and Spie-Batignolles), had to build the dry docks and set up the pyrotechnic plant. The second, led by the French company Campenon-Bernard, had to build piers and wharves, as well as barracks and technical blocks. The first consortium was composed of eight major companies and numerous subcontractors established in Brittany²¹. The second one was a sort of industrial troika in which the Campenon-Bernard company hold a leading position. Looking back, given the sheer size of the operation and its financial spin-off effects (FRF 350 million at current value for the civil engineering works only), we must acknowledge that the industrial set-up operated effectively and efficiently. Toiling around-the-clock in two or three shifts (2 x 10 hours of work or 3 x 8 hours per day), 1500 workers took three years to build the Île Longue naval base. When the SSBN *Le Redoutable* sailed to her home port in the Bay of Brest, on September 26th, 1970, the submarine base was nearing completion.

The beginning of the construction of the Île Longue base, in the summer of 1967, saw the expropriation, the expulsion and the departure of the last inhabitants of the peninsula. A body of gendarmes, serving as an armed police force, was involved in the maintenance of the public order. André Calvez, a senior executive for the French department of coastal engineering, who was then working on the site, reported to Yves Cariou that he was, like his fellow comrades, booed and insulted by some of the evicted residents. *"We were going through a rather tough time. Of course, we were there to do our work; but we could not remain indifferent to the genuine and understandable distress of the expropriated inhabitants. The family of an elderly woman who was nearly a hundred years old begged us to let her die there. It was certainly the most moving aspect of the whole events. Some people were then accommodated in houses located in Rostellec"*²².

What was the impact of the events of May 1968 on the progress of construction work? The archives recording this period are not yet opened and no details are available as yet. Nevertheless, two conclusions can be drawn. The building site was not spared by the strikes and, in exactly the same way as for the Cherbourg dockyards, the local authorities quickly established preventive measures to safeguard the protective security of the site. The fact is that, in these troubled times, the officials in charge of the French Navy feared insurrectionary strikes instigated by very competent but heavily unionized workers. *"Few would dare to disregard the call for a strike, even if the reasons for it were somewhat odd"* wrote Captain Ladsous in a report to the General Staff of the Navy, early in the 70's. But

²⁰ Yves Cariou clearly highlighted this side of the base setting-up: *La Force Océanique Stratégique*, Rennes, 2006, Marines, p. 24-31; *L'Île Longue, histoire d'un site exceptionnel*, Quimper, 2010, Palantines, p. 62-109.

²¹ As a subcontractor on the site of the Île Longue naval base, the Marc SA company, founded in 1876, strongly expanded and became, from the 1970s onwards, one of the regional leaders in the field of public works.

²² Yves Cariou, *L'Île Longue, histoire d'un site exceptionnel*, Quimper, 2010, Palantines, p. 78.

he immediately watered down his critics: *"On the other hand, those who were given formal notice to come and work always did so; they have not only enabled the protective security of the site to be effective – they willingly accepted that - but they also agreed to continue every ongoing construction works which were on the critical path."*

There was no sign, among the protesters, of a calling into question of deterrence. The May-June demonstrations contributed to delays in the construction of the base: about a month for the civil works in progress; maybe a month and a half for the dry docks (covering works) and for technical workshops. Strikes had similar effects on the drawing-up of the tender documents concerning the civil engineering works scheduled in the southern area of the base and in the small fort of Crozon. If one took into account the traditional summer holidays, the delay in the implementation of the overall program amounted to about two months. After all, there was indeed little impact because the SSBN *Le Redoutable* sailed to the Île Longue naval base six months later than expected (1st June, 1970). Everything seemed for the best in the best of all possible worlds. It should merely be noted that this social crisis did not re-ignite the controversy about the nuclear base. The geography of the Île Longue site had changed: its morphology (30 hectares had been reclaimed from the sea) and its physiognomy (what remained of the old site was a villa called "Villa Leon") were modified. Nostalgia had no more anchorage point in the real to which to hold.

The building works are not the core issue of the paper but their ambivalence must be underlined. It was a great boon and it lasted a long time – well after the entry into service of the operational base. The construction was not really completed before 1975. In his reports, Captain Alleaume, both commanding officer of the operational base of the FOST and commanding officer of the SSBN squadron, noted in 1973 that the organic texts, standing orders, instructions, rules and regulations concerning the nuclear base and the SSBN squadron were established on a day-to-day basis, when operational or organisational events were occurring, *"during the time that the submarines are being commissioned and are sailing to their home port, that buildings are still being built, that the protective security is being organized, that new crews are given training and are gradually taking over from well-trained crews"*.

What was happening in the Île Longue peninsula had an impact on the naval dockyards and the military port of Brest. The construction works of the Ile Longue base required at some stage the assistance and support of almost all technical consultants, services, workshops, manufacturing plants and other sites of the Direction of shipbuilding and naval weapons (DCAN). For example, the reinforced concrete empty boxes which are the backbone of 1,100 metres of wharves and piers in the operational base of Île Longue were prefabricated in the dry dock number 4 of the Brest arsenal, before being tugged and stranded in their final position. When the construction of the Île Longue naval base was completed – in 1974 – FRF 1,361 million had been pumped into the local economy²³.

²³ SHD/M/V 3BB⁸ SFM 110 papers relative to the draft budget 1973. SHD/M/V 3BB⁸ SFM 112 note 3-30 125 CN/PR of 16 August 1973, for the naval Chief of Staff: preparation of the discussion of budget with the Ministry of Finance. In his report, the deputy Raymond Tourrain estimated that the cost of Île Longue construction was around FFR 3593 million at current

2. The entry into service of the operational base

The establishment of such a complex and specific organisation as the Strategic Oceanic Force (FOST) was no mean task. The work was not always decided and carried out calmly.

As time was going by, the base blended in with the surrounding landscape. In 1972, the Strategic Oceanic Force, still in its relative infancy with its two first submarines, was far from monopolizing the DCAN capabilities. The Direction of shipbuilding and naval weapons devoted only 7.5% of its annual working time to the maintenance of the SSBN (10% if the special studies and researches were taken into account). However, in the relatively long term, the major refits of SSBN were sure to be of paramount importance for the workload of the Brest arsenal. Therefore a major refit site with all its appendices (located in The Pointe area, it was called "le bassin 10" [the dry dock 10]) and six technical workshops (for hydraulics, periscopes, batteries, internal missile tubes, test benches of SSBN weapons system, auxiliary testing station) were created in order to provide the arsenal with the most modern industrial tools needed to deal with the new technologies of the SSBN. DCAN was contracting authority of the entire project (its role was to define both general and detailed functional characteristics of each part of the dry dock) while the department of coastal engineering (la Direction des Travaux Maritimes) was project manager for civil engineering works. Nevertheless, DCAN was project manager and technical authority for all minor industrial equipment. In 1973, 95% of the Île Longue base and 95% of the simulator facilities located in the Brest arsenal (at the Roches Douvres) were achieved, as well as 20 % of the Guenvenez pyrotechnic area and the whole of the Rosnay and Kerlouan VLF stations²⁴.

The part played by the Brest arsenal in the logistic support of the FOST increased in 1974, when the most important units of the surface fleet (aircraft carriers, cruisers, frigates, etc.) sailed to their new home port of Toulon and to the Mediterranean theatre of operations. The SSBN maintenance and refit was very carefully planned and was not subject to annual budget adjustments. But the major refits (IPER or Indisponibilité Pour Entretien et Maintenance) could nevertheless cause jerks in the DCAN workload. The cost of SSBN maintenance and refit raised from about 2.45 million hours in 1977 to more than 3 million in 1978, to return to its previous level later²⁵. Maintenance and refit of surface ships became soon an adjustment variable of the arsenal workload: from 2.43 million working hours in 1977 to barely 2 million in 1978.

Public response to the project of naval component to the French deterrence and to the creation of the FOST was at first hesitant, sometimes reticent. It was far from the consensus reached subsequently. Besides, the ignorance, in French policy circles, of basic nuclear physical concepts

value (Bruno Barillot, *Audit atomique. Le coût de l'arsenal nucléaire français 1945-2010*, Centre for Documentation and Research on Peace and Conflict, Lyon, 1999, p. 146).

²⁴ National Assembly. Fourth legislature. First regular session 1972-1973. No. 2585 Annex to the minutes of the meeting of 12 October 1972. Report in the name of the Committee on Finance, the General Economy and Planning on the Finance Bill for 1973 (No. 2582) by Guy Sabatier MP and reporter-general. Annex No. 47 National Defence. Capital expenditure. Special reporter Mr Charles Pasqua, MP.

²⁵ Patrick Boureille, Geneviève Emon-Naudin, *L'arsenal de Brest. Quatre siècles d'industrie navale*, Palantines, Quimper, 2013, 240 p.

caused some unfortunate, if not ridiculous, errors of assessment. To label the nuclear warhead as “bombinette” (miniature bomb) is a tangible proof of ignorance. Each AN 11 bomb could inflict to USSR considerable damage, four times the cataclysm of Hiroshima. At the joint service force level, the existence of already well-developed strategic air forces did not facilitate the creation of a naval deterrent force, which would have a certain independence within the strategic nuclear force (controlled until then by the Air force). Not to mention that the necessary autonomy of the Strategic Oceanic Force did not fit naturally into the Navy's traditional organizational and operational structures²⁶.

The French Navy ships are traditionally maintained to a high standard and refitted in dockyards supervised by the DCAN. The SSBN base of Île Longue was therefore, at first, seen as a sort of outgrowth of the Brest dockyard. Yet, the fact that the admiral in charge of the FOST was not part of the regional chain of command (under the maritime Prefect responsibility) but, for some of his functions, directly under the Chief of Defence Staff did not fit into the very hierarchical organization of the Navy²⁷.

The chain of command concerning the Île Longue operational base was complex. Since January 5th, 1970, its commander had been reporting to three authorities: First, the admiral in charge of the Brest arsenal (the “Major Général”), who had a key role, early in the program, because the dockyard at Île Longue was considered as an outgrowth of the main dockyards located inside the port of Brest; then the commander of the Brest submarine base (CSM or Commandant des Sous-Marins), who was then commanding officer of the Île Longue SSBN squadron and in charge of both the squadron workshop and the provisioning squadron services; at last the commander of the military defence zone outside the Île Longue area. During an official visit on board SSBN *Le Redoutable*, President Georges Pompidou ordered that a single authority has both the administrative responsibility and the responsibility for the operational readiness of the Strategic Oceanic Force. Therefore, the Île Longue operational base passed under the responsibility (administration and operational readiness) of ALFOST (Amiral commandant la Force Océanique Stratégique) the 1st of March, 1972.

Throughout the FOST development, long before it became the major component of the French deterrence, President Pompidou had been eager to know exactly the degree of efficiency and credibility of both the main operational components and the chain of command of the FOST, namely: 1) the level of availability of each SSBN and of the nuclear weapons; 2) the levels of availability and performance of the radio transmission network at Rosnay and Kerlouan. To address this concern, the first commander of the FOST, Vice-Admiral Joire-Noulens, attended every sea-test stage prior to each of the first twenty patrol departures. Last but not least, President Pompidou met each SSBN commanding officer at the Elysée Palace in June 1971²⁸.

²⁶ SHD/M/V, 3BB² note 004751 DN/CM.7 DR, 24 December 1971 from the Minister of Defence to the Chief of Staff of the Navy entitled "Commandement des Sous-marins nucléaires Lanceurs d'Engins "

²⁷ SHD/M/V, 3BB⁸ SA 448, decree of the 22nd of April 1927 relative to the French navy organization,

²⁸ René Moirand, "Après les entretiens Nixon-Brejnev, l'Élysée souhaite faire partager au pays sa foi dans la dissuasion ", *Presse de la Manche*, June 28th, 1973.

3. The FOST base: the place where is expressed the strategic thinking of the President of the French Republic

Since 1974, the National Defence Institute of Higher Education (IHEDN) and the Île Longue base have been the two highly symbolic places where all French Presidents express their strategic thinking. In France, deterrence has been a taboo subject for a long time, and the very small number of presidential statements on this topic emphasizes the difficulty of the exercise. Any time the President stands to speak in those places, he is expected to provide new information, with the risk that it might appear to affect the doctrine whose strength implies sustainability. Few politicians dare to depart from the presidential doctrine. Since 1971, all the French presidents have been hesitating between the desire to emphasize the importance of their initiative and the necessity to deny any questioning of the foundations of the nuclear deterrence.

a) Georges Pompidou: the White Paper, the Blue Plan and the crisis of vocations

Though he was at the origins of deterrence, General de Gaulle only flew by helicopter over the Île Longue site during his last official visit in Brittany, on February 1st, 1969. His successor, Georges Pompidou, went to the Plateau d'Albion on June 19th, 1971, when the first strategic missile group (GMS) became operational, and he clearly wanted to visit the Île Longue base and the SSBN *Le Redoutable* before the submarine left Brest for its first operational patrol. In June 1973, he told the SSBN commanding officers he had invited to the Elysée Palace: *"I pay very close attention to the evolution of the naval strategic force. I'll come and visit you at Brest. Maybe two visits"*.

It came as no surprise, on September 28th, when the Elysée Palace announced that the President of the Republic would inspect the Île Longue base and the SSBN *Le Redoutable* on October 22nd. He was accompanied by Michel Debré, the Minister of National Defence, and Admiral Storelli, the Navy Chief of Staff. He flew to the Île Longue naval base by helicopter and was welcomed by Rear-Admiral Joire-Noulens, the FOST commander, and the general project manager (MOP), Engineer General Gempp. He was given short statements on the Coelacanth program and the organization of a SSBN at the base officers' mess, before inspecting the crews of the SSBN *Le Redoutable* and *Le Terrible*. In the late morning, he visited the SSBN *Le Redoutable*, which was made fast on the North Pier of the base and where he was welcomed by the two commanding officers (Jacques Bisson [red crew] and Bernard Louzeau [blue crew]). There, he visited the engine space, the missile compartment and the central navigation and operation workstation before attending the loading of a 15-ton M1 missile into one of the sixteen launch tubes. He then went to the pumping station and the missile workshop of the base.

In the afternoon, he outlined his long-term strategic view to the midshipmen gathered on board the helicopter carrier *Jeanne d'Arc*, which was scheduled to leave Brest the following day. In line with the ideas of General de Gaulle, he said that *"France has no other means to deter an aggression, and therefore to defend peace, but to possess such a terrible deterrent tool that no one would dare attack her"*. The SSBN *Le Redoutable* and the training ship *Jeanne d'Arc* were indeed two strong symbols.

The two components of the visit program (i.e. deterrence and training) must indeed be read in conjunction. It was important to reaffirm the traditional policy of the Fifth Republic regarding the French nuclear defence capabilities – which would in the future rest mainly on SSBN. It was also important to emphasize the "*noble and patriotic*" aspects of the naval officer career in a context of crisis of vocations.

The following year was published the White Paper on Defence and the so-called *Plan Bleu* (1972-1990) – an 18-year plan to increase the navy capabilities, and substantial benefits were granted to submariners. It was a way to reassure the officers, petty officers and crews, worried about their future in an atomic navy, and the Navy shipyards workers (on strike, claiming for the industrialization of the Département of Finistère).

b) Valéry Giscard d'Estaing: "One should ignore nothing of the tool one uses"

Not much is known about the visit of the Île Longue operational base, on May 16th, 1974, by Alain Poher, President of the Senate and, in that capacity, interim President of the Republic (he assumed the presidential powers following President Pompidou's death). The most that we can say is that it occurred just a few weeks after he took the decision to build a sixth SSBN.

Reviving a tradition that had led Émile Loubet and Charles de Gaulle to sail, in April 16th, 1901 and February 8th, 1968, respectively on the *Gustave Zédé* and *Eurydice* submarines, President Valéry Giscard d'Estaing, for his first official visit to the French armed forces, sailed, on 7 and 8 November, 1974, on the SSBN *Le Terrible* (the commanding officer was Antoine Houette). He was accompanied by General Mery, the President's Chief of Staff (EMP), Vice-Admiral Emeury, ALFOST, and Captain Bernard Louzeau (EMP staff). He arrived at Guipavas airport early in the morning on November 7th, flew by helicopter to the Île Longue base and embarked on board *Le Terrible*. The SSBN then left the Île Longue peninsula and the Brest Bay, escorted by the frigate *Suffren* and the destroyer *Casabianca*, in order to sail to the Iroise Sea.

President Giscard d'Estaing wanted to "*spend twenty-four hours on board a SSBN (an entire cycle of one day patrol), be aware of the conditions of life of the crew and make an accurate assessment of the efficiency of the submarine*". The SSBN dived up to its operational depth and during more than thirteen hours, during which the President could inspect the SSBN from bow to stern and witness a missile launch exercise (simulated launch, during twenty minutes, of the sixteen 500-kiloton ballistic missiles [forty times Hiroshima bomb]). The following day, the SSBN sailed back to the Brest Bay to bring back the President to the Île Longue base, then she sailed to the Iroise Sea in order to start her operational patrol. Welcomed ashore by Admiral Joire Noulens, the Navy Chief of Staff, IGA Philipponeau, the DCAN manager, and IGA Pasteau (Engineer General or Ingénieur Général de l'Armement), *Coelacanth* project manager (MOP), the Head of State inspected the Île Longue operational base. During a brief press conference, in a sudden bid of spontaneity, he made known to journalists "*the maximum operational depth in safe conditions of the SSBN,*" i.e. 300 metres.

These events were taking place shortly after the meeting of a Defence Council, on October 10th, 1974, during which the construction of the sixth SSBN was officially restated. This submarine, called

The Inflexible, "was to be operational around 1980". These events also took place just before the parliamentary debate on the Defence budget 1975, during which both the opposition parties (on the left side of the political spectrum) and some members of the majority opposed the project. This very day, protesters, gathered in the Rue de Siam in Brest, yelled and chanted "*Giscard, tu n'es pas terrible, et nous serons redoutables*" ["*Giscard, you aren't terrible, and we will be formidable*"], thus referring to two SSBN called *Le Terrible* and *Le Redoutable*. At the same time, Paul Stehlin, former Air Force Chief of Staff and a centrist member of the National Assembly for Paris, challenged the validity of the deterrence concept (he called the deterrent force "*an illusion force*") and wrote a paper underlining the better performances of the US combat aircraft YF.17 and YF.16 over the French aircraft *Mirage F.1* (NATO Air Forces were about to renew their equipment!). "*There are two campaigns against deterrence. Their authors have no right to be the censors of an autonomous defence of France,*" said the President with Gaullist accents. He underlined that, as far as the nuclear submarines were concerned, France was the third world power (after the United States and the USSR) "*thanks to an entirely national know-how*". He added that "*one can't display two contradictory attitudes at the same time: on one hand, the desire to have an autonomous national defence and, on the other, the refusal to vote, every year, the financial means of that defence*"

These events were taking place at the very moment President Giscard d'Estaing was to go on a pilgrimage to Colombey-les-deux-Eglises (where General de Gaulle was buried). He was clearly following de Gaulle's footsteps... even if the first non-Gaullist successor of General de Gaulle was taking so long to decide whether a third unit of nine strategic ballistic missiles at the Plateau Albion, the aircraft *Super Mirage*²⁹ or the nuclear tactical weapons were needed.

c) F. Mitterrand: 3 SSBN on patrol at the same time; a 7th SSBN built before 1990

Political change occurred on 10 May 1981, when the left wing of the French political spectrum, with François Mitterrand, came to power. But, ever since 1978, for the former secretary general of the Socialist Party, there had been no longer any question to dissolve the nuclear deterrent tool³⁰. François Mitterrand followed de Gaulle's footsteps with ease and spontaneity. On June 11th, he visited the underground command headquarters at Taverny and, on July 24th, the Île Longue operational base; on July 3rd, Pierre Mauroy, the Prime Minister, inspected the FOST command and control centre at Houilles.

²⁹ The *Super Mirage*, equipped with an air-to-ground missile (with a nuclear warhead) and tactical nuclear weapons, would have a better penetration at low altitude inside the enemy airspace.

³⁰ On 21st June, 1977, Georges Marchais, leader of the French Communist Party, was the first to question the ideological heritage of the left political wing: "*I consulted experts; they believe that our conventional army would not survive three days [to an attack]. Therefore we have said that we are in favour of a deterrent force.*" In line with the communist leaders, in a stepwise approach, the executive committee of the Socialist Party, while stating that the ultimate aim remained the disappearance of the nuclear force, said on November 9th, 1977, that, in the meantime, nuclear weapons would be "*maintained to its current operating state*". For those in the Socialist Party who still hoped that it was just a moratorium, an "Agreement" in January 1978 dispelled any illusion: the expression "*in its current operating state*" was then replaced by "*in operating state*"...

On July 24th, the Head of State was accompanied by Charles Hernu, the Minister of Defence, Admiral Lannuzel, the Navy Chief of Staff, and General Saulnier, President Mitterrand's Chief of Staff (EMP). He was welcomed at the Île Longue naval base by Vice-Admiral Claude Pieri, ALFOST, and Captain Miguet, the commanding officer of the Île Longue operational base. He first visited the pyrotechnic area; then Commander Berges, the SSBN *Le Terrible* commanding officer introduced the submariners of the blue crew to him: they were about to sail out on patrol (it was the 28th patrol of the second French SSBN); then he had lunch with officers and petty officers on board the submarine; finally, he held a press conference attended by over 70 journalists.

On this occasion, François Mitterrand provided three major pieces of information. First, he ensured the primacy of the naval component of the French nuclear forces: *"the spearhead of the nuclear deterrent is here"* said he, pointing to the SSBN. Secondly, according to the President, it would be *"reasonable"* that a seventh SSBN be operational five years after the commissioning of the SSBN *L'Inflexible* (i.e. not later than 1990), but the technology of the new submarine should be nothing more than a technological extension of the former SSBN, *"otherwise, we would have to change so much that it would be out of our financial capabilities"*. Finally, the French Navy must be able to have *"simultaneously three submarines operational, ready to act if it is necessary. This represents probably a sufficient operational capability for France. All the more so as, at the same time, the range and accuracy of the missiles are increasing, and the communication systems are improving."*³¹ Charles Hernu, the Defence minister, was invited to take the necessary measures to ensure that three SSBN would be simultaneously in patrol.

According to the third successor of General de Gaulle, in the context of the second Cold War – it was due to the invasion of Afghanistan by the USSR and confrontations with the Warsaw Pact on the question of the SS 20 and *Pershing II* missiles deployed in Europe – the most important thing was *"that we should always be above the deterrence threshold (...) and that any potential enemy should be sure to encounter difficulties, should he ever decide to attack, to take the initiative and go on the offensive"*.

On 25th May, 1985, President Mitterrand came again to the Île Longue naval base to inspect the SSBN *L'Inflexible* before she sailed, under the command of Commander André Metayer, for her first operational patrol. He was welcomed by Charles Hernu, the Defence Minister, General Jannou Lacaze, the Defence Chief of Staff, Admiral Yves Leenhardt, the Navy Chief of Staff, and Vice Admiral Alain Coatanéa, ALFOST. This sixth SSBN was an improved version of the former submarines. She had a better acoustic discretion, a more efficient information system, a better communication system and a new strategic weapons system – 35-ton and 4000-kilometre range *M4* missiles with six independent 150-Kt warheads, plus tactical weapons (torpedoes and changing environment missiles). It was a major qualitative leap since the SSBN had more miniaturized and hardened nuclear warheads than the five other submarines together and could kill more than 60 million people. The commissioning of this new

³¹ Statement of François Mitterrand, President of the Republic, at the end of his inspection of Île Longue, Brest, Friday, July 24th, 1981. Jacques Attali, *Verbatim*, tome 1.

SSBN also allowed a speedy refit of the other SSBN while maintaining the posture of three submarines simultaneously in patrol.

President Mitterrand also inspected the missile storage facilities on the Guenvenez area, the warhead storage facilities, the missile assembly workshop and the missile handling system (above the dry docks) in the Île Longue base, for which important works had been carried out. Finally, it was an opportunity for François Mitterrand to meet the project managers and the architects of the M4 and SSBN systems. The message President Mitterrand wished to convey was that the nuclear deterrence brought a liberty of action to the national armed forces. It *"gives us a real political freedom, allows France to have an independent strategy of action in all areas of the world where she has interests and duties."* He added that he was *"ready if necessary to give the order to launch a nuclear attack"*³². After having rejected Ronald Reagan's proposal to take part to his strategic defence initiative, he declared that nuclear deterrence based on SSBN would remain the foundation of French defence policy up to the obsolescence of this kind of technology. Consequently the commissioning of new-generation SSBN was scheduled from 1994 onwards, in order to *"have four submarines simultaneously in patrol"*.

d) Chirac at Île Longue: from the "weak to strong" to the "hard to fool" postures

Ten years later, the environment had changed. The Soviet bloc had imploded and the East-West confrontation belonged to the past. Two years after the publication of a new White Paper, and after having tried in vain to reap the benefits of peace, a Gaullist President had to reshape the deterrence strategy.

On 14th June, 1996, after he had inspected the Naval Academy, the Head of the State sailed on the training ship *Eglantine* – crewed with midshipmen – to the Île Longue base where he was expected to inspect *Le Triomphant*, a new-generation SSBN which was to sail for her first patrol in November. His coming was eagerly anticipated: the investment budgets had been drastically reduced and the current military planning law made provision for the decommissioning of 28 vessels; the suspension of compulsory service led to severe staffing problems; the DCAN was being reorganized and the deterrence posture was being reshaped (less than two SSBN would be simultaneously in patrol). That is why he devoted time to visit the SSBN *Le Triomphant*, first of a new generation of four units, and the nuclear aircraft carrier *Charles de Gaulle*, under construction in the Brest dockyard³³.

On June 8th, 2001, during a speech to the auditors of the 53rd session of the National Defence Institute of Higher Education (IHEDN), President Chirac said he had taken stock of *"the key risks and challenges for France in an era of transition which was still imbued with rules and practices inherited from an old order, and which was struggling to define new conditions for stability and security"*³⁴.

³² Statement by François Mitterrand, President of the Republic, on nuclear deterrence, during the inspection of SSBN *L'Inflexible*, Île Longue, Brest, Friday, May 25th, 1985.

³³ Jacques Isnard, "Le président de la République se rend à Brest pour visiter la marine et l'arsenal", *Le Monde*, 15th of June, 1996.

³⁴ Speech of the President Jacques Chirac, June 8th, 2001, before the 53rd Session of the IHEDN in Paris, on the France defence policy, military strategy, nuclear disarmament, European defence, reform of the defence system, France military interventions abroad and the French nuclear deterrent.

Confronted with the military ambitions of Iran and North Korea, he was aware that the increasing proliferation of missiles and weapons of mass destruction could jeopardize global disarmament efforts – such as the renewal of the Non-Proliferation Treaty, agreements for nuclear tests prohibition and fissile material production, non-militarization of space – undertaken since the Berlin Wall fell. Jacques Chirac reshaped the French nuclear deterrence concept by widening it to take into account the biological and chemical mass destruction weapons, by widening the safeguard of France's vital interests to include Europe, by evolving from an old Cold War containment posture, called "*from weak to strong*", to a new posture which was called "*from strong to crazy*" by journalists. That is why Jacques Chirac talked about "*detargeting*" measures [déciblage] and mentioned that the SSBN could launch their ballistic missiles in regular sequence.

Between this founding speech at IHEDN and his visit to the Île Longue base, hyper-terrorism became an inescapable fact of foreign relations. The World Trade Center attacks on September 11th, 2001, the Bali slaughter on October 12th, 2002, the Atocha station attack in Madrid on March 11th, 2004, are just a few examples. The official visit of the Île Longue base was therefore an opportunity for the President to reaffirm or modify some components of the doctrine. On January 19th, 2006, accompanied by Michele Alliot-Marie, the Minister of Defence, Admiral Alain Oudot of Dainville, the Navy Chief of Staff, General Wolsztynski, the Air Force Chief of Staff, and General Henri Bentegeat, the Defence Chief of Staff, Jacques Chirac visited the SSBN-NG *Le Vigilant*, under the command of Commander Goulou. Following this visit, he delivered a 20-minute speech devoted entirely to deterrence. It provided three pieces of information: 1) the widening of France's vital interests to our allies' strategic supplies and defence; 2) the threat of nuclear retaliation "*against the leaders of states who would use terrorist means*"; 3) the reduction in the number of nuclear warheads on some of the missiles in the SSBN. But on the other hand, he stressed on the leap forward, in terms of security, represented by the commissioning of the new intercontinental range ballistic missile (*M 51*) and the more flexible Air-to-Ground intermediate range missile (ASMPA)³⁵.

e) Nicolas Sarkozy and François Hollande: nuclear as a political challenge

Two months after he took office and on the eve of the French National Day, Nicolas Sarkozy inspected the renovated facilities of the Île Longue operational base. He visited the Guenvenez area – the workshop where the assembly of the elements that compose a missile takes place – and new facilities, suitable for the *M.51* size, in the Île Longue base. This event provided to President Sarkozy the occasion to remind attendees (officers, crews and civilians) of the twin issues of the decisions to be

³⁵ *Ouest France*, January 20th, 2006, p 1-2: "Dissuasion nucléaire : Chirac change de cible". Arnaud de la Grange, "Une vision en phase avec le monde de l'après 11 septembre", *Le Figaro*, January 20th, 2006. Laurent Zecchini, "Dissuasion : M. Chirac élargit la notion d'intérêts vitaux", *Le Monde*, January 20th, 2006. Bruno Tertrais, "Les vertus de la dissuasion nucléaire française", *Le Figaro*, January 21st and 22nd, 2006. Nicolas Baverez, "Dissuasion, mon amour" *Le Point*, January 26th, 2006. Pascal Boniface, manager of the Institute for International and Strategic Relations (IRIS), "Défense de toucher aux crédits du nucléaire" *Challenges*, January 26th 2006. Michel Rocard, former Prime Minister "Surenchère nucléaire : danger", *Le Monde*, January 27th, 2006, p 18. Patrice Buffotot, "L'inflexion de la doctrine française de dissuasion à l'aube du XXI^e siècle" AFRI volume VIII, 2007, p 406-414. Delegation for Strategic Affairs No. 919 DEF/DAS/SDTP/NP February 8th, 2006: "Retombées du discours du PR sur la dissuasion (19 janvier 2006) ».

made in term of nuclear deterrence. *"The choices we will have to do, the political choices, the financial choices, the industrial choices, the military options, we will do them keeping in mind that we are subject to a dual requirement. The safety of our country is a top priority (...) but there is also a diplomatic, strategic and political dimension, in the truest sense of the word, for our country."*

This very day of July 13th, 2007, Nicolas Sarkozy was perfectly in line with his predecessors in considering that nuclear deterrence was one of the sovereign functions of the Head of State. *"Deterrence has at the same time a diplomatic, strategic and political dimension and policy in the real sense of the word for our country. (...) We have a part to play in this; we bear some responsibility in it; we enjoy an international influence from it. You are also the actors of this part to play, this responsibility to share and this influence to enjoy. Never forget."*³⁶ During his visit to the Île Longue naval base on January 30th, 2012 (as official candidate of the Socialist Party for the Presidential election), and on June 5th (as new President of the Republic), François Hollande didn't deviate from this standing policy.

Conclusion

The Île Longue base is a highly symbolic element of the French military power and national policy. Its perfectly visible existence and its regular activity demonstrate the French sustained determination to defend the vital strategic interests and, if necessary, the life of the French nation. Its protective security results from the efficient operation of the implemented deterrent tool: an attack on the Île Longue base would be a major aggression against France, involving nuclear retaliations.

Yet, over time, a turning point occurred: the Île Longue naval base is becoming a place where the exercise of sovereign power is performed. This is illustrated by the fact that each SSBN bears a name which was given, in the times of sailing ships, to the most powerful first-rank vessels. This name, via a process of nominalisation, is an adjective describing the virtues of the monarch of the Ancien Régime (Old Regime). Nowadays, the means that contribute to the protection of the vital interests of the nation are placed in the hands of the President of the French Republic, who, since 1962, is elected by direct universal suffrage. Very gradually, with Heads of State who were not really part of the ideological heritage of General de Gaulle, an official visit, at the beginning of the new presidential period, to the Île Longue base became imperative³⁷. Since July 2007, the Île Longue has been the place where the Head of State provides information on the future White Paper on Defence and National Security.

A second turning point occurred in 2012 when the candidates in the French presidential election were permitted a tour of the Île Longue base³⁸. Though this visit does not obviate the need for the

³⁶ Speech of President Nicolas Sarkozy after his inspection of French nuclear forces, July 13rd, 2007. See also the speech of Nicolas Sarkozy in Cherbourg at the presentation of the SSBN *Le Terrible*, March 21st, 2008.

³⁷ The most emblematic case is that of Valéry Giscard d'Estaing: observation of Admiral Albert Joire Noulens: SHD/M/V Oral Archives Joire Noulens, 1GG⁹. First Commander of the SSBN *Le Redoutable* and, since October 1973, at the staff of the President, Captain Bernard Louzeau "upgraded" Valéry Giscard d'Estaing;

³⁸ Before 2012, an exception can be noticed with the coexistence of 1986-1988. In the specific context of cohabitation, the simultaneous presence of three submarines at sea has been exploited by the Prime Minister and future candidate for the presidential election. Jacques Chirac came for a breakthrough on the preserved defense area of President François Mitterrand. Jacques Isnard noted in an article in *Le Monde* of 20 May 1987 entitled "A l'Île Longue M. Chirac célèbre la

President-elect to inspect the base soon after his election, as we saw with François Hollande, it is a good opportunity, for a candidate, first to gain credibility, and secondly to express himself on military and strategic aspects of political programs.

primauté de la dissuasion nucléaire": "Meanwhile, *Le Redoutable*, *Le Foudroyant* and *L'Inflexible* are in operational sea patrols." In fact, the journey to Moscow was a political mistake of the Prime Minister, his visit to Île Longue of 20 May 1987 was the opportunity to "*proclaim [his] project was to stop this degradation*". He stood indeed in the immediate aftermath of the Mitterrand and Jacques Chirac was received by his counterpart, N. Ryzhkov (P. Favier and Martin-Roland, *Les décennies Mitterrand*, Volume 2, *Les épreuves (1984-1988)*, Le Seuil, p. 683).