The ABC's of Nuclear Disarmament in Latin America

Introduction

There are many reasons why countries decide to give up the ability to have nuclear weapons. The most prevalent reasons deal with security risks perceived by each country. Although there never is a single reason why a choice is made, I argue that in the case of Latin America, the most important reason for disarming is the theory that the region becomes less secure if a nation or several nations pursue a nuclear weapons program. The presence of nuclear weapons or nuclear weapons program brings instability to a region, and thus it becomes more reasonable to remove that risk.

T. Paul implements this logical to Australia and that region's decision of disarmament. By looking at the two main treaties for nuclear regulation in the region, the Treaty of Tlatelolco and the Nuclear Non-Proliferation Treaty, we can see the prioritizing of a regional commitment over an international commitment. This can be seen as an effort to stabilize the Latin American region before helping stabilize the international community. Also taking into consideration the Declaration at Ayacucho, we can assume that Latin American countries feel a greater responsibility to keep their region stabilized. If the presence of nuclear weapons is more destabilizing than stabilizing, we would expect a regional consensus to disarm.

Why did Latin America come up with the Treaty of Tlatelolco?

The nuclear presence in Latin America began with Brazil and Argentina, which both had initiated nuclear programs in the mid-1950s. These South American countries have historically been territorial and cultural rivals. Argentina had been conquered by Spain, while Brazil was

Portuguese territory. They have been in conflict with each other and have also supported different sides of armed conflict in the region. Adding nuclear weapons to the scene made their inherent rivalry more threatening to the region. Originally, Brazil had proposed the idea of a nuclear-weapon-free zone in Latin America in September of 1962 (Redick 72). At the time, Argentine president, José María Guido who had been allowed to assume the Presidency by the military coup that unseated his predecessor, dismissed any attempts at negotiation.

After the Cuban Missile Crisis, Alfonso García Robles, a Mexican diplomat, suggested the creation of a Latin American nuclear free zone. The potential consequences of a nuclear war near Latin America increased several people's determination to ban nuclear weapons. Alfonso García Robles, who would later go on to win a Nobel Peace Prize for his work, hope that "a ban on nuclear arms would ensure that this part of the world would not be involved in any conflict between rival great powers (Alfonso García Robles 1)." This meeting took place on February 14, 1967 in the Tlatelolco district of Mexico City, but did not come into force until April 25, 1969. That 1967, Latin America and the Caribbean created the globe's first nuclear weapon free zone, where eventually all 33 countries in the region would join (Estrada 1).

Date of Signatures and Ratifications of the Treaty of Tlatelolco

Country	Signature	Ratification
Argentina	27 September 1967	18 January 1994
Bolivia	14 February 1967	18 February 1969
Brazil	09 May 1967	29 January 1968
Chile	14 February 1967	09 October 1974
Colombia	14 February 1967	04 August 1972
Cuba	25 March 1995	23 October 2002
Ecuador	14 February 1967	11 February 1969
Mexico	14 February 1967	20 September 1967
Paraguay	26 April 1967	19 March 1969
Peru	14 February 1967	04 March 1969

Uruguay	14 February 1967	20 August 1968
Venezuela	14 February 1967	23 March 1970

Table 1.1

Table 1.1 contains information from "Status of Signatures and Ratifications of the Treaty of Tlatelolco and its Additional Protocols I and II" from the OPANAL site. It includes all South American countries except for Guyana, Suriname and French Guiana, but also includes Mexico and Cuba. These are the countries that will be analyzed for their signature and ratification dates because they include the three Latin American states that have attempted to obtain a nuclear weapon (Argetina, Brazil, Cuba), the countries within their proximity that are involved in regional politics (thus excludes Guyana, Suriname, French Guiana, Central America and the Caribbean), and Mexico is included due to its proximity to the United States and economic importance to Latin America. French Guiana belongs to France, so technically it is not a Latin American country. Guyana is actually the Cooperative Republic of Guyana (formerly British Guyana) and Suriname is the only Dutch-speaking country in Latin America. Thus, these three countries remain excluded from this study as they are not considered Latin America and do not exhibit Latin American culture or thought, as seen by the Spanish and/or Portuguese colonized countries.

If one looks at the signature dates for the countries in South America, most signed the same day the treaty meeting took place, February 14, 1967. The only countries that did not sign at that time were Argentina, Brazil and Paraguay. Both Argentina and Brazil had active nuclear programs at the time, and it can be assumed that Paraguay, which lies between the two and has had its territory taken from it by both Argentina and Brazil, had some defensive reasons for not signing the treaty. Paraguay has had conflict with Argentina and Brazil since the early 1800s, and there have been several lost wars where Argentina and/or Brazil take pieces of Paraguayan

territory for themselves. In 1967, Argentina was under the military rule of Juan Carlos Onganía Carballo, Brazil was under the rule of a military junta and Paraguay was under the rule of General Officer Alfredo Stroessner Matiauda, the second longest dictator in the 20th Century (after Fidel Castro). Even though this could indicate that military dictatorships would not sign the Tlatelolco Treaty, in 1967 Bolivia was under military dictatorship and signed the same day. Also, it only took Paraguay until April of 1967 to sign, Brazil until May and Argentina until Septemeber. Cuba did not sign the Treaty until March 1995 as it felt it was in too much of a vulnerable position between the U.S. and the Soviet Union during the Cold War.

The ratification dates show that several countries took a few years to ratify the Treaty, but most did by 1970. Brazil, which was one of the last countries to sign the Treaty, surprisingly was the second Latin American country to ratify the Treaty after Mexico. Interestingly enough, Chile ratified the Tlatelolco Treaty in October 1974 just at the beginning of the Augusto Pinochet's military junta. Argentina ratified the Treaty during Carlos Menem's presidency in January of 1994. Cuba did not ratify the Treaty until October of 2002, mainly due to their fallouts with the United States.

The Treaty of Tlatelolco demonstrated to the world that regional agreements could be reached that would help secure neighboring relations. IAEA Director General Mohamed ElBaradei stated that: "The Treaty set an important precedent in devaluing the role of nuclear weapons in its zone of application –- thereby contributing to regional peace and security by ensuring that Latin America and the Caribbean remained free from nuclear weapons (IAEA Staff Report 1)." This contributed to further regional treaties such as the South Pacific Nuclear Free Zone Treaty, the Treaty on the Southeast Asia Nuclear Weapon-Free Zone and the African Nuclear Weapon Free Zone Treaty.

Date of Signatures and Ratifications of the Non-Proliferation Treaty (NPT)

Country	Signature	Ratification	Accession
Argentina			February 10 1995
Bolivia	July 01 1968	May 26 1970	
Brazil			September 18 1998
Chile			May 25 1995
Colombia	July 01 1968	April 08 1986	
Cuba			
Ecuador	July 09 1968	March 07 1969	
Mexico	July 26 1968	January 21 1969	
Paraguay	July 01 1968	February 04 1970	
Peru	July 01 1968	March 03 1970	
Uruguay	July 01 1968	August 31 1970	
Venezuela	July 01 1968	September 25 1975	

Table 1.2

Table 1.2 contains information from "Status of Signatures and Ratifications of the Treaty of Tlatelolco and its Additional Protocols I and II" from the OPANAL site. It includes all South American countries except for Guyana, Suriname and French Guiana, but also includes Mexico and Cuba. These are the countries that will be analyzed for their signature and ratification dates because they include the three Latin American states that have attempted to obtain a nuclear weapon (Argetina, Brazil, Cuba), the countries within their proximity that are involved in regional politics (thus excludes Guyana, Suriname, French Guiana, Central America and the Caribbean), and Mexico is included due to its proximity to the United States and economic importance to Latin America. French Guiana belongs to France, so technically it is not a Latin American country. Guyana is actually the Cooperative Republic of Guyana (formerly British Guyana) and Suriname is the only Dutch-speaking country in Latin America. Thus, these three countries remain excluded from this study as they are not considered Latin America and do not exhibit Latin American culture or thought, as seen by the Spanish and/or Portuguese colonized

countries.

All the Latin American countries in the table signed the NPT in July of 1968 except for Argentina, Brazil, Chile and Cuba. The countries that signed the Treaty, except for Venezuela and Colombia, ratified it within two years of their signature. Due to its past authoritarian leaders, Venezuela practiced an isolationist type of policy in international affairs. In 1969, Rafael Caldera became president and abolished the isolationist regime. This could by one of the reasons, that the NPT was not ratified in Venezuela until September 1975. Meanwhile in Colombia, bloody, on-going internal conflict (which began in the 1960s) with las Fuerzas Armadas de Colombia (FARC) demanded total attention from the government. The presidency was forced to spend much time, energy and resources trying to solve the FARC issue that it could not clearly focus on something like the NPT. Colombia did not ratify the NPT until April 1986.

There is also a different category, labeled "Accession;" this is for countries who did not sign the NPT when it was written, nor ratified it before it came into affect, but they did eventually join the NPT, which is called "accession." Argentina and Brazil both had their nuclear weapons programs during this time and they did not want to be subject to unjust guidelines imposed by wealthier nation. Chile did not have nuclear weapons programs, but it did have an interest in nuclear energy, which will be discussed later. This, along with the fact that Argentina and Brazil has not signed the Treaty either, made Chile more reluctant to sign. Additionally, Brazil and Argentina were reluctant to sign the NPT because they felt it and the IAEA discriminated against non-nuclear weapon states. Dr. John R. Redick[1] recognized this behavior as a type of inferiority complex that morally impeded Argentina and Brazil to join the

[1] John R. Redick is Associate Professor and Program Specialist Division of Continuing Education, the University of Virginia. He received his PhD in Foreign Affairs from the University of Virginia.

NPT: "Their traditional animosity became muted by a shared perception of victimization by the advanced nations (Redick 75)." Non-nuclear weapons states took any event that seemed to devalue their validity on the world stage as a personal insult. One of these events came in the shape of the Falklands War. The presence of nuclear weapons on British ships during the Malvinas war greatly upset Argentina (Portales 16) and they used this event to defend their position on not signing the NPT. Eventually on February 10, 1995 Argentina entered the NPT through accession, followed by Chile on May 25, 1995. Being a uranium rich country, it took Brazil longer to sign the NPT, as it wanted to keep its ability to continue producing its own uranium; it finally joined the NPT on September 18, 1998.

Cuba did not want to sign the NPT as a form of protest to the United States and to keep the perception of security risk open. After a failed Cuban Missile Crisis, Cuba still wanted to the United States to perceive it as a threat and was looking for a form of deterrence, specifically to deter invasion. There are claims that in 1981, Raúl Castro even traveled to Russia with the sole purpose of purchasing a nuclear weapon.

The problem with one nation not signing a treaty is that it leads to other nations possible not signing the treaty. No country want to lose the upper hand or a hand at all, by signing a treaty, being bound by it and then other countries not having to obey treaty protocols. Countries that maintain their nuclear option open as a means of power over intermediate countries are the reason why countries like Argentina and Brazil can avoid international commitment to the non-proliferation regime, because any country "maintaining this policy forces another country's position, following the logic of threat perception to the security of the countries in that region (Portales 18)." At that point, escalation is bound to happen and a possible confrontation may occur. This shows that what one country does in a region matters to the other countries in that

region. If one country begins to act irrationally, then all countries are in some kind of danger because "the national security of states is interdependent (Millan 126)." If something compromises one country, it compromises all, especially in a interdependent regional system such as South America.

Nuclear Weapons in Latin America are more destabilizing than stabilizing

Security concerns in Latin America do not only include nuclear weapons. On December 9, 1974 la Declaración de Ayacucho was made in order to increase security perception. Argentina, Bolivia, Chile, Colombia, Ecuador, Panama, Peru and Venezuela set the goal to "create conditions which permit effective limitation of armaments and put an end to their acquisition for offensive military purposes, in order to dedicate all possible resources to economic development (Ayacucho Declaration, 1974 1)." This treaty prohibited weapons and equipment, including biological, chemical and nuclear weapons, aircraft carriers, ballistic missiles, cruisers and nuclear submarines. This agreement discussed "the concepts of intraregional balance and trust within the countries of the region (Portales 25)."[2]

There are several resources that indicate that Latin American political scientists were worried about the effect nuclear weapons would have on the region. Several theorists believed that the introduction of even the hint of a weapons program would make the entire region paranoid and further increase a state's incentive to produce a bomb. Other theorists view the development of nuclear weapons in the region as a risk in that it draws attention from the rest of

[2] "los conceptos de equilibrio intrarregional y de confianza entre los países de la región (Portales 25)"

the world onto Latin America. This unwanted attention could lead to disastrous affects for the region if any country was perceived as a threat to any of the greater superpowers.

Security perception motivates a country's weapons development. Carlos Portales discusses how the introduction of a new weapon to the Latin American region has a "contagious" effect; first one country has it and then the rest of them struggle to obtain it. If any country is perceived to be looking or developing a new weapon, all countries will follow in order to keep the balance of power within the region. The introduction of a new weapon limits any arms control treaties until all countries possess the new weapon (Mercado Jarrín; Portales 27).

In his article "Consequences of a Nuclear Conflict for the Climate in South America," Licio da Silva[3] describes the consequences to South America if there were to be a nuclear attack on North America. He calls this the "Optimistic Hipothesis [sic]" for South America and calculates population death by smoke in the atmosphere. His "Pessimistic Hipothesis [sic]" involves attacks on South American cities and the destruction that could be cause, he even takes into account the possibility of the Amazon going up in flames. His article is quite alarming and one can see that he is truly terrified at the possibilities. As a conclusion, he calls for countries to be prepared for the worse and for the region to try and avoid international conflict by not obtaining nuclear weapons. da Silva states that if no South American country possesses a nuclear weapon, then no nuclear weapon state should perceive South America as a threat. If a Latin American state were to have a nuclear weapon, then that country could be perceived as a threat and thus could be targeted in an international conflict if it is seen as taking sides: "When a country becomes the owner of a nuclear arsenal, it also becomes a potential target (da Silva 56)." Therefore, da Silva calls for Latin American countries to remain disarmed so as not to put the

[3] Astrophysicist at the Observatorio Nacional de Río de Janeiro- Brasil

region in peril. His directly names Argentina and Brazil for their involvement in nuclear weapons programs and accuses them of putting the entire region at risk:

> *This shows the temerity of Argentine and Brazilian military who are in favour of the possession of nuclear weapons in their respective countries; we believe that the price we would have to pay for the dubious pride of belonging to the small group of nations in possession of nuclear technology for military purposes is too high.*
>
> *da Silva 56*

Here we see a sincere fear of the security risks that one country can pose on an entire region. For da Silva, the destabilizing effect that nuclear weapons would have on South America alarm him enough to single out the two countries and negatively describe their search for nuclear weapons as "dubious pride." He continues on to ask for "the commitment not to install any nuclear arms in their [South American's] territory (da Silva 56)." The use of the word "their" refers to a collective identity shared by those in South America. Military improvements of individual countries should not be as important as the well being of the entire region. South Americans countries are lumped together and thus, must take into account the entire region before pursuing precarious programs. An arms race in the region would affect all countries in Latin America since such an arms race "contributes to increase both international tensions and the danger of armed conflicts, in addition to diverting resources indispensable to the economic and social progress of the peoples of the world. (Brazil and the Non-Proliferation of Nuclear Weapons 19)." One country's search for nuclear weapons or even nuclear power, increases all the other countries' likelihood to obsess, overreact or become hostile during the situation. Regions that are economically dependent on each other, such as South America, would have a very hard time surviving if there existed no trust between the nations.

Although some attribute South America's disarmament to be a factor of the emergence of democratic and civilian governments, the initial talks about nuclear weapons and their negative effects on the region were discussed by the military dictatorships of XXX in Argentina and XXX in Brazil. Even in Latin American military dictatorships the perception of an increasing imbalance of power would lead a country's leader to find a way to keep the status quo. This could come from fear of losing the race (specifically the nuclear arms race in this situation) and having it result in a hegemon among the South American countries, which has never really happened. Throughout South American history, the balance of power in the region has been relatively stable, with no one country overpowering the others. Anything that challenging that would be very disruptive to the region's sense of security.

An arms race of this magnitude would force a country to spend an incredible amount of money on its military, which Latin America was already doing and could not afford to do so anymore (Millan 121). Latin America only disposes of a small amount of resources and monetary funds; a constant or decrease in military spending could help Latin American countries develop. Military spending in Latin America is more of a muscle flexing contest than real threats: "the decision to channel and assign funds for military ends is essentially of a political rather than economic character, since it depends on the relations of power within each Latin American country, as well as its foreign relations (Millan 120)." Instead of having military dictatorships spend money on the military and related weapons programs, the governments could disarm in order to redirect that money into social and economic programs that would help Latin American countries develop. Instead of allowing countries to go on an arms race that would suck up all their resources, such as what happened with the United States and the Soviet Union,

by negotiating treaties, Latin America put a ceiling on military spending in at least nuclear areas.

Chile

There has been a great deal of research on Argentina and Brazil's nuclear program, as they are the countries known to have had a nuclear weapons program. There has been some mentioning of Chile having some kind of nuclear weapons program in response to the security threat of Argentina and Brazil possibly attaining a weapon. Although not much information on a weapons program in Chile is available, the following describes Chile's civilian nuclear program from past to present with the research available at this time. The information on Chilean nuclear events were obtained from a Channel 13 report on historical events.

Chile's History

In 1946, Gabriel Gónzalez Videla ran for president as the Radical Party's candidate. He defeated the socialist and right wing candidates, but since he only held 40% (not the necessary 50%) of the vote, the final election went to Congress, which confirmed him on October 24, 1946. Although his presidency began with support from the Chilean communists and he granted them several cabinet seats, eventually the two began to have issues and the communists withdrew their support of Gónzalez Videla. This lead to his banning of communists under the 1984 Law for the Defense of Democracy (also known as *la ley maldita*, the damned law), his breaking relations with the Soviet Union and Warsaw Pact countries and new leaning to the right. During his presidency, the United States Atomic Energy Commission began to look for uranium in northern Chile (Desarollo de la Energía Nuclear en Chile).

González Videla resigned in 1952, and General Carlos Ibáñez del Campo, who previously ruled Chile as dictator between 1927-1931, this time he won the presidential elections for the center-right Agrarian Labor Party. Although he promised to sweep out political corruption," his administration made moderate progress, but did manage to rescind the *ley maldita*. During Ibáñez's government, several initial steps were taken in the nuclear field. On February 22 of 1952 the Ministry of Economy declared all radioactive materials found on Chilean soil as "essential." In 1954, the University of Chile created a Nuclear Physics group and acquired a Dutch particle accelerator. On September 14, 1955, Dr. Eduardo Cruz-Coke presented to the National Congress the need to create a National Atomic Energy Commission. On October 23, Chile sent a delegation to New York where the initial workings of the International Atomic Energy Commission were taking place. Also, from September 1955-October 1956, the Chilean military sent Major Enrique Lackington to the Argonne National Lab in Chicago to study reactor design. (Desarollo de la Energía Nuclear en Chile).

In March of 1958, Jorge Alessandri Rodríguez defeated Salavador Allende 32.2% to 28.5% and went on to focus on Chile's economic issues without proving much success. During his administration Chile signed a treaty with the United States, in which the latter would assist the former in nuclear materials, personnel training and research. On December 1st, Chile signed the Antacrtic Treaty but did not ratify it until June 8, 1961. On September 19, 1959 Chile became a member of the IAEA and on August 5, 1963, Chile signed the Limited Test Ban Treatyl only to ratify it on August 7, 1965. These events can be seen as a show of commitment to peaceful nuclear use by the country. (Desarollo de la Energía Nuclear en Chile).

The Christian Democratic Party of Chile's Eduardo Frei Montalva, came into power in 1964 to take on some social programs but remained semi-conservative. Early in his term, the

Chilean Ministry of Economy created the National Commission on Nuclear Energy with the task of managing nuclear development. On October 23, 1965, the Chilean Nuclear Energy Commission (CCHEN) was created to deal with problems related to the production, acquisition, transfer, transport and peaceful use of atomic energy and its radioactive and fissile materials. The National Commission on Nuclear Energy and the CCHEN were to work together as autonomous organizations, yet they were to be dependent on the president. In mid-1996, Chile signed a treaty with Israel on the use of peaceful nuclear energy and in response to France's nuclear test in Mururoa, it began its National Program on Environmental Radioactivity in order to calculate the amount of contamination that would reach its borders. In 1967, Frei Montalva approved CCHEN's Nuclear Politics and Development Plans that emphasized nuclear energy applications in agriculture, chemistry, physics, nuclear electronics and medicine. Chile and the United Kingdom signed a cooperation treaty for the peaceful use of nuclear energy in 1968, which lead to the acquisition of a 5MWt research reactor to be built in La Reina. That December Chile and the IAEA signed an agreement for the use and assistance of fuel for the research reactor. (Desarollo de la Energía Nuclear en Chile).

After unsuccessfully campaigning three times, Salvador Allende Gossens finally won the 1970 Chilean elections as part of the Unidad Popular Party. A physician and the first democratically elected Marxist socialist president in the Americas, Allende implemented highly socialist programs in order to better the poorer Chileans. His relations with Fidel Castro, his radical policies and the threat he posed for U.S. business interests distressed Washington even before Allende had won the 1970 election and they had been planning to keep him out of office or remove his by any means. On September 11, 1973 a military coup with the help of the CIA removed Allende from power. During Allende's short term, the nuclear engineer Lieutenant

Colonel Jaime Estrada Lee proposed the building of a nuclear reactor by the army and was reinforced by the National Defense Minister when he pointed out the needed participation of the Armed Forces in the planning and development of nuclear energy. In 1971, the military organized a center for the Military's Nuclear Studies (CENE). In 1972, Chile and Spain sign an agreement for the peaceful use of nuclear energy and Chile begins building CENE with Spain's assistance. This agreement is very interesting when one notes that the very right-winged Francisco Franco was dictator of Spain at the time. The only explanation for why a right-winged Spain would agree to a treaty and further assistance of a very left, socialist could be that the center they were helping build would be controlled by the military, Franco being a General himself. In 1973, the CENE was officially created to execute the military's political participation nation's nuclear development. The original founder of the CENE, Lieutenant Colonel Jaime Estrada Lee, became its first director where he remained until 1975. (Desarollo de la Energía Nuclear en Chile).

Augusto Pinochet Ugarte, the Commander-in-Chief of the army, led a coup against Salvador Allende, and proceeded to rule the military junta put in place that 1973. In 1981, Pinochet made himself president of Chile and banned all other political parties. Pinochet's regime led to the disappearances, tortures and deaths of tens of thousands. Early in Pinochet's rule during the military junta, the reactor at La Reina reached criticality; it was the first time a fission reaction had been produced and controlled in Chile. That same year, Chile signed a safeguard with the IAEA about the enriched uranium (from France) being used in La Reina, which by 1974 was producing radioisotopes. In October 1975, another agreement was signed with Spain in order to begin construction on a reactor for multiple irradiation use en Lo Aguirre, which reached criticality in 1977. On June 21, 1976, a decree was passed to merge the Center

for the Military's Nuclear Studies and Chilean Nuclear Energy Commission resources. During that same year, Chile signed an agreement for cooperation pertaining peaceful nuclear energy with Argentina (November) and then Paraguay (December), and one with Brazil in 1980. As Chile went through difficult economic times in the late 1970s, the National Energy Commission reported that any new projects would have to be postponed. Meanwhile, in October of 1979, the General Director of the IAEA, Dr. Sigvard Eklund, visited Chile and a follow up visit took place in October of 1984 from General Director Dr. Hans Blix. Both these visits showed a continuous commitment to international safeguards despite the fact that an authoritarian leader was in charge of the country. (Desarollo de la Energía Nuclear en Chile).

During Pinochet's rule as self-declared president, the country continued to face severe human rights abuses and his assassins even targeted those outside Chile. In 1982, the United Kingdom signed an agreement for the sale of fuel for the La Reina reactor, and the Chile signed a safeguards agreement with the IAEA for that same fuel. As nuclear energy grew in presence, the Chilean government decided to declare April 16th as "Chilean Nuclear Energy Day." In January of 1985, the reactor at La Reina reached its second criticality on 45% enriched uranium (U235). (Desarollo de la Energía Nuclear en Chile).

Eventually opposition to an aging Pinochet forced him to realize that he could no longer continue to rule the country. In 1987 he legalized political parties and called for a plebiscite that would determine whether he would remain in power until 1997. Pinochet lost his plebiscite and elections were held in order to bring democracy back into Chile. Patricio Aylwin Azocar came into office on March 11, 1990 into an unbalanced country; he had to work hard to keep the military at bay while also helping out those harshly affected by the Pinochet regime. After Pinochet, Chile had four democratically elected presidents, Aylwin (1990-1994), Eduardo Frei

Ruiz-Tagle (1994-2000), Ricardo Lagos Escobar (2000-2006), and Michelle Bachelet Jeria (2006-present). All four presidents have pushed for world disarmament, while also accepting that nuclear power for electrical energy needs to be taken into consideration. Alywin used nuclear weapons as an emotional appeal, as seen in one of his speeches: "before the risks of nuclear war, the ideals of peace are reinforced (Aylwin 2)."[4] Lagos, on the other hand, has been the most active proponent of nuclear energy, persisting that it is green energy and asking that Chile "seriously evaluate the production of nuclear energy" (Lagos 1). Still, some remain skeptical about nuclear energy. Current president Michelle Bachelet had promised during her presidential campaign not to use "atomic energy" during her term (Henriquez 1). Once in office, Bachelet formed a commission of different specialists, the Zanelli Commission, which worked for eight months to assess the advantages, disadvantages and risks of nuclear energy for Chile. They found that the government "cannot discard nuclear energy as a future option for the country (1)."[5] Still, several environmental groups try to discredit nuclear power, mostly through fear.

Chile's Nuclear Program

In the 1950-70s the University of Chile offered general courses nuclear engineering and nuclear physics. By 1984, the classes had dwindled to mainly nuclear physics and simple applications excluding nuclear energy (Tenreiro 7). Since 1985, CCHEN has concentrated on the development of technologies related to extractive and applicable metallurgy, chemical conversion, the application of isotopes and radiation, physical experimentation and material science, but the most important use of nuclear energy in Chile has been the use of nuclear power for electricity (Desarollo de la Energía Nuclear en Chile). Interestingly enough, even though

[4] "frente a los riesgos de una guerra nuclear, se fortalece el ideal de la paz (Aylwin 2)"
[5] "no se puede descartar la energía nuclear como una opción futura para el país (Henriquez 1)"

Chile has its own doubt about even using nuclear energy for electricity, the fact that Chile is going that far makes neighboring countries somewhat nervous. Peruvians worry that Chile might look into producing nuclear weapons despite the fact that Chile is one of the countries that advocates disarmament the most.

Conclusion

Countries may sign non-proliferation for many different reasons depending on the political situation in the region. In Latin America, the mere fact that a few countries looked into nuclear energy during the Cold War began unsettling a region that had been used to relative stability. The fear of nuclear war in Latin America or near the region inspired some to spread the word of responsibility, such as astrophysicist da Silva when he states that "it is our duty to contribute to making the war scenario that would spare South America the most probable one, saying no to any form of installation of nuclear weapons in our continent (da Silva 56-57)." Latin America's refusal to have nuclear weapons disrupt its balance of power has led it to become recognized for its "political and moral leadership in the area of nuclear disarmament (Estrada 1)."

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