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"Encircled but Managing – Nuclear Energy in the Austro-Czechoslovak Relations 1948-1989"

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Abstract

The Czech Republic and the Federal Republic of Austria are neighbours with similarly sized landmasses and populations. Due to the Czech Republic's and Austria's geographic proximity and overlapping political histories, policymakers in Prague and Vienna must understand each other's strategic interests and politics to avoid potential friction. After the Czech Republic inherited the Dukovany nuclear power station from Czechoslovakia, it built another one in Temelín, and has been following pro-nuclear energy policy intending to expand further the number of reactors it possesses. Austria has been unsuccessful in its attempts to turn its neighbours against nuclear power plants. By offering the first in depth historical review of this dispute, based on a range of original documents and sources, this thesis recovers the contingency of present-day debates over the peaceful use of nuclear energy and the proximity of nuclear power plants to mutual borders.

Implying the Practice Theory in Diplomatic Studies and studying hundreds of correspondences from Austrian and Czechoslovak diplomats, this study reveals three distinctive phases of nuclear energy in Austro-Czechoslovak relations: disinterest (1948-1977), concern (1978-1985), and rejection (1986-1989). The research confirms that three distinctive phases of nuclear energy in Austro-Czechoslovak relations were due to the Cold War climate, which determined the relations between the East and the West, including nuclear energy. Both sides had a range of varying strengths and weaknesses in the context of this dispute. On the one side, Austrians lacked public education about the benefits of nuclear energy – including the clear differentiation between military and civil uses – but enjoyed democratic principles, and respect for the plurality of opinions, though this often came with politicisation of the issue. On the other side, Czechoslovaks faced the governmental monopoly on political decisions and a concerted public effort to popularize nuclear energy. Furthermore, this thesis demonstrates that the impact of the external Chernobyl nuclear crash transformed attitudes in Austria, with ramifications that extend into the present day. This was unique compared to Austria's other five "nuclear" neighbours (with the exception of Liechtenstein and Italy). The Czech position remains similar to the Czechoslovak one

because of the lack of alternative energy sources and the strong trust in nuclear energy.

Abstract

Die Tschechische Republik und die Bundesrepublik Österreich sind Nachbarn mit ähnlich großen Flächen und Bevölkerungen. Aufgrund der geografischen Nähe Tschechiens und Österreichs und der sich überschneidenden politischen Geschichte müssen die politischen Entscheidungsträger in Prag und Wien die strategischen Interessen und die Politik des jeweils Anderen verstehen, um potenzielle Reibungen zu vermeiden. Da Tschechien das Kernkraftwerk Dukovany von der Tschechoslowakei erbte, ein weiteres in Temelín baute und eine pro-nukleare Energiepolitik verfolgte, um die Zahl seiner Reaktoren weiter auszubauen, versuchte Österreich erfolglos, seinen Nachbarn zum Atomausstieg zu bewegen. Mit der ersten ausführlichen Geschichte dieses Streits, die auf eine Reihe von Originaldokumenten und Quellen basiert, stellt diese Diplomarbeit die Kontingenz der gegenwärtigen Debatten über die friedliche Nutzung der Kernenergie und die Nähe von Kernkraftwerken zu gemeinsamen Grenzen wieder her.

Diese Masterarbeit impliziert die Praxistheorie der Diplomatischen Studien und untersucht Hunderte von Korrespondenzen österreichischer und tschechoslowakischer Diplomaten. Dabei werden drei unterschiedliche Phasen der Kernenergie in den österreichischen-tschechoslowakischen Beziehungen aufgedeckt: Desinteresse (1948-1977), Besorgnis (1978-1985) und Ablehnung (1986-1989). Die Forschung bestätigt, dass dies am Klima des Kalten Krieges lag, dass die Beziehungen zwischen Ost und West, einschließlich der Kernenergie, bestimmte. Beide Seiten hatten im Zusammenhang mit diesem Streit unterschiedliche Stärken und Schwächen. Einerseits mangelte es den ÖsterreicherInnen an öffentlicher Aufklärung über die Vorteile der Kernenergie, einschließlich der klaren Unterscheidung zwischen militärischer und ziviler Nutzung. Trotzdem genossen sie aber demokratische Prinzipien und Respekt vor der Meinungsvielfalt, was wiederum oft mit einer Politisierung des Themas einherging. Auf der anderen Seite sahen sich die Tschechoslowaken mit dem staatlichen Monopol für politische Entscheidungen und einer konzertierten öffentlichen Anstrengung zur Popularisierung der Kernenergie konfrontiert. Die Diplomarbeit zeigt jedoch, dass

die Auswirkungen der Nuklearkatastrophe von Tschernobyl die Einstellung in Österreich verändert haben, mit Auswirkungen bis in die Gegenwart. Dies war einzigartig unter den anderen fünf „nuklearen“ Nachbarn Österreichs (mit Ausnahme von Liechtenstein und Italien). Im Gegensatz dazu bleibt die tschechische Position aufgrund des Mangels an alternativen Energiequellen und des starken Vertrauens in die Kernenergie ähnlich der tschechoslowakischen Position.

Keywords

Nuclear Energy, Nuclear Power Stations Jaslovské Bohunice, Zwentendorf, Dukovany, Mochovce, Temelín, Chernobyl, Czechoslovakia, Austria, Czechoslovak-Austrian relations

Range of thesis: 21,767 words

Pledge of Honesty

On my honour as a student of the Diplomatische Akademie Wien – Vienna School of International Studies, I submit this work in good faith and pledge that I have neither given nor received unauthorized assistance on it.

Vienna, 11th June 2021 Daniel Žemla

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1 INTRODUCTION

In 2021, Czech diplomatic relations with its four neighbours, Austria, Germany, Poland, and Slovakia, have remained relatively benign. However, when trying to evaluate them, at least according to the actual concept of the Czech Republic's foreign policy from July 2015, Austria, when compared to the other three neighbouring states, seems to be the state with which the Czech Republic has the "worst" relations. The document states that:

> *"With regard to Austria, the Czech Republic will work towards establishing closer contact and building a network of trust at a political level, as well as between the two countries' central governments, local government bodies and civil society, so that the relationship emulates the intensity of relations enjoyed with other neighbours."*[1]

This statement points to many unsolved issues or taboo topics that still exist between the two countries. These include the issue of the German-Czech Declaration on Mutual Relations and its development from January 1997, which also applies to the roughly 150,000 to 250,000 Sudeten Germans expelled to "Austria". No separate bilateral treaty has been concluded yet.[2] More importantly, today, appropriate vehicle infrastructure between bordering regions, which include the South Bohemian Region and Upper Austria (motorway České Budějovice – Linz) and the South Moravian Region and Lower Austria (motorway Brno – Wien) and have been subject to debate since 1979, is still missing.[3] However, one issue continues to vex Austro-Czech relations even more, namely the different perception of the peaceful use of nuclear energy and the existence of nuclear power plants in the Czech Republic.

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[1] "Concept of the Czech Republic´s Foreign Policy," Ministry of Foreign Affairs of the Czech Republic, accessed 2 January 2021, https://www.mzv.cz/file/1574645/Concept_of_the_Czech_Republic_s_Foreign_Policy.pdf.

[2] Václav Veber et al., eds., *Dějiny Rakouska* (Praha: Nakladatelství Lidové noviny, 2009), 625. ; Miroslav Kunštát, "Česko-rakouské paralely: sbližování sousedů, které není přímočaré," in *Zahraniční politika České republiky 1993-2004: úspěchy, problémy a perspektivy*, ed. Otto Pick and Vladimír Handl (Praha: Ústav mezinárodních vztahů, 2004), 88.

[3] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 433, nezpracováno, Informace o čs.-rakouských vztazích.

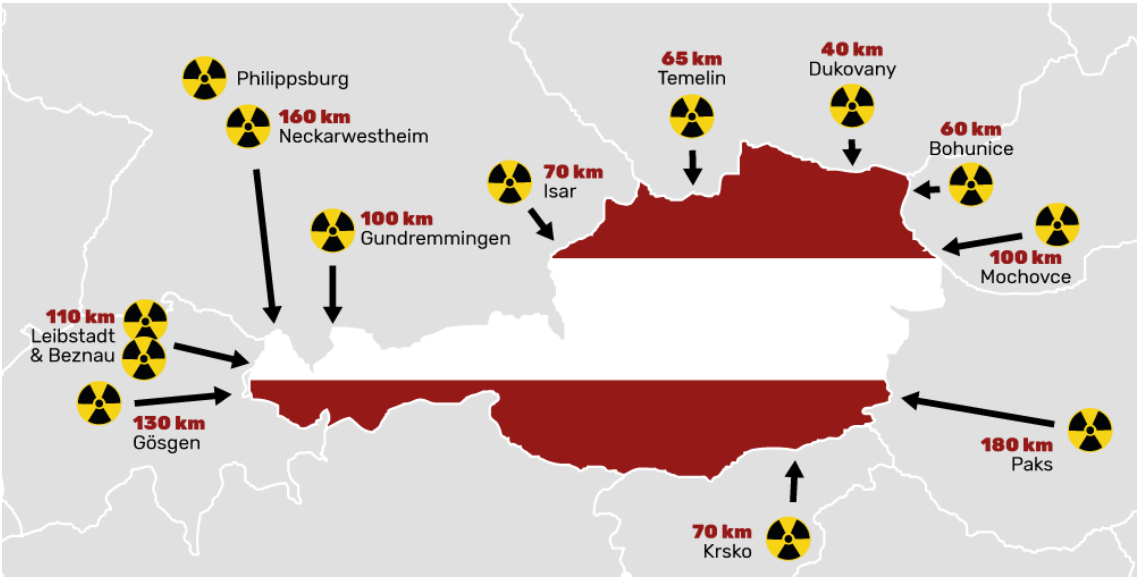

Figure 1: Distance among foreign nuclear power stations and the Republic of Austria.[4]

The topic of peaceful usage of nuclear energy has been brought up for discussion many times, such as when the 6.3° earthquake in Croatia happened just 100 km away from the Slovenian nuclear power station (NPS) Krsko in 2020 (compared to 3.2° in April 2016).[5] The topic was also discussed in Sweden, resulting in the closure of a nuclear reactor from winter this year. Meanwhile a highly securitised debate (from the point of view of critical infrastructure) took place with regard to the proposal of constructing a new unit in the Czech Dukovany NPS. It was, however, in the 1990s and early 2000s when this diplomatic rift between Austrians and Czechs escalated, with mass protests and the blocking of crossings escalating due to an Austrian initiative to block the Czech accession to the European Union (EU). The origins of this bilateral dispute remain unexplored. Four long decades of isolation between evoked disinterest in both directions, which might be still visible in the Austrian State Archive for instance. Whereas Dukovany and Temelín are relatively well-known geographical terms in Austria, at least in the bordering regions with the Czech Republic, a similar knowledge among the Czech population about the "only" Austrian NPS in Zwentendorf, which never opened, can probably not be expected. But what about other NPSs,

[4] "Atomkraftwerke rund um Österreich," GLOBAL 2000, accessed 21st January 2021, https://www.global2000.at/atomkraftwerke-um-oesterreich.
[5] Hildegard Schmoller, "Die Nuklearkatastrophe von Tschernobyl in der österreichischen und tschechischen Erinnerungskultur," in *Vom 20. Jahrhundert ins neue Jahrtausend – Österreich und die Tschechoslowakei/ Tschechien 1986-2016*, ed. Hildegard Schmoller, Miroslav Kunštát, Monika Březinová, 16. (unpublished manuscript)

such as Jaslovské Bohunice and Mochovce? All these nuclear power plants were built in the past 50 years and some are still operating.

This thesis aims to provide a solid background of marginalized history connecting the hidden backshow of the Czech-Austrian nuclear dispute by answering several key research questions: Why was peaceful usage of nuclear energy not a unifying topic in Austro-Czechoslovak relations? Was nuclear energy always a disturbing factor? To what extent is a peaceful use of nuclear energy a topic in Austro-Czech relations nowadays? To conduct the research, three chronological chapters (1948-1977, 1978-1985, 1986-1989) show the changing approaches in Austria. Whereas the authoritarian system in the past did not allow much debate, free discussion in democratic Austria enabled both people and politicians to look at this technology from various viewpoints. However, the fundamental problem is captured in the thesis title itself and visually demonstrated in the picture above – the relative closeness of foreign nuclear power plants to Austrian territory, which is potentially endangering the Austrian population as well as the environment. In contrast to the thousands of expelled Sudeten Germans, this issue concerns every single person in Austria.[6] Understanding these origins, the same can be applied to Austrian's other neighbours: Hungary, Slovenia (formerly a part of Yugoslavia), Switzerland, and Germany (West Germany). Besides, this thesis forces us to re-think the Austrian self-image as a historically "green, environmentally-friendly, and antinuclear nation".

Of course, it is true that for younger generations, including my fellow Austrian classmates and peers, this is a part of the "national identity". The question here is whether this existed a couple of decades ago and what stood behind the shift, given that the Second Austrian Republic originally planned to open two NPSs. Unlike Czechoslovakia (ČSR and after 1960 ČSSR – Czechoslovak Socialist Republic), Austria did not experience massive "schooling" on the benefits of nuclear energy and was therefore easily influenced by an antinuclear wave, which originated in the United States. Moreover, the referendum on the opening of the already constructed Zwentendorf nuclear power station in 1978 became the subject of political rivalry between two major parties, the ÖVP (Austrian

[6] Milan Znoj, "Das Atomkraftwerk Temelín: Ein schwieriges Thema in den tschechisch-österreichischen Beziehungen," in *Österreich. Tschechien : geteilt - getrennt – vereint*, ed. Stefan Karner and Michal Stehlík (Schollach: Schallaburg Kulturbetriebsges, 2009), 146.

People's Party / liberal-conservative, right) and the SPÖ (Social Democratic Party of Austria / social-democratic, left), more so than ecology or economy. The extreme closeness of the NPSs of Soviet type, especially after the Chernobyl meltdown in 1986, gave the antinuclear rhetoric a massive push. Indications from three archives (the Austrian State Archives, the Archives of the Ministry of Foreign Affairs of the Czech Republic, and the National Archives of the Czech Republic) show that there were many other problematic issues in the bilateral relations, besides the peaceful use of nuclear energy.

In 1967, although having two different social establishments, the two republics Austria and Hungary, celebrated the centennial anniversary of the dual Austro-Hungarian monarchy.[7] That was not the case for other successor state, one of which was Czechoslovakia. As Austrian and Czech lands (Bohemia, Moravia, and Silesia) are linked with a 392-year long history, before both nations went separate ways in 1918, one would think that the shared past could serve as a starting or unifying point for bilateral relations, as it was, for example, visible in the "example" of Austro-Hungarian relations during the Cold War.[8] That did not work in the Austrian-Czechoslovak case. On the contrary, of all its neighbours, Austria had the worst relations with ČSR/ČSSR. One similarity could be found with Italy and the South Tyrolian question. Even though both ČSR/ČSSR and Hungary were Soviet satellite states with communist governments, the perception of Czechs and Slovaks corresponded to the one from the dual monarchy period, meaning that these Slavs did not belong to the ruling nations. Still present was a narrative that especially Czechs were the so-called "gravediggers of the monarchy" ("*Totengräber der Monarchie*"). Conservative Austrians could not overcome the loss of economically valuable Czech lands. Maybe Austrians and Hungarians just found themselves once again having experienced a similar development after WWI – significant losses of territory and population. Although the Hungarian economy was based on a similar principle as the Czechoslovak one – a centrally planned economy, Austrians tended more toward the Hungarian one, "flexible and West oriented". Austria also tried, unsuccessfully, to differentiate

[7] Manfried Rauchensteiner, *Unter Beobachtung: Österreich seit 1918* (Wien Köln Weimar: Böhlau Verlag, 2017), 353.
[8] Archiv MZV, DTO 1945-89, Rakousko 15, Politické informace, 140 893/87 C-2.

Czechoslovak-Hungarian relations via alleged suppression of the Hungarian minority in Slovakia.

One of the main critics to Communist Czechoslovakia was the Austrian press. Media (except the Communist newspaper *Volksstimme*) spread vast amounts of negative news about violations of fundamental human rights and freedoms, clerics persecution, and environmental clashes. In particular, unsourced information published in Czechoslovak media was more frequently discussed in the Austrian, including themes such as oil leaks ending with accusations that the poor condition of ČSSR's environment influenced forest dieback in Austria. Any attempts to improve ČSSR's image in the Austrian press failed, ending with statements that Austrian politicians cannot limit press freedom.

Communist Czechoslovakia and neutral west Austria stood on opposite sides of the "Iron Curtain" for 41 years (1948-1989), with a long border that was strictly controlled. During the Cold War, a period without the technologies and free contacts that exist today, the diplomatic missions in Prague and Vienna played a crucial role in collecting information and drafting reports, not only for their headquarters (foreign ministries), but also for other state actors, such as the Austrian Federal Chancellery and the ruling Czechoslovak Communist Party (KSČ). The diplomatic corps was a mediator who, on the one side, asserted its policies and, on the other side, analysed counter policies in close connections with the intelligence services (StB in Czechoslovakia, GÖS in Austria). In this sense, this Master Thesis is based on the Practice Theory in Diplomatic Studies, which tries to explain outcomes through routine practice. This Master Thesis is an in-depth analysis, focusing on a past-oriented case study devoted to one diplomatic rift between two sovereign states.

The term "International Relations" is broad and can be understood as any multinational interaction between two foreign actors (individuals, institutions, states) e.g., perception of nuclear energy policy. As a next step, foreign policy is then a specific objective(s) that one actor asserts towards other actors e.g., abandoning nuclear energy. How this foreign policy is subsequently delivered is a subject for diplomacy.

Jacob Sending, Vincent Pouliot and Iver B. Neumann define diplomacy as *"a claim to represent a given polity to the outside world"*. The main goal of diplomacy has been to prevent and solve any "soft" and "hard" dispute over the past.

The focus itself lies on processes and practices – ways in which business is done. Among such activities are negotiations, writing speeches, drafting reports, savoir vivre, etc. to name a few. Nowadays, actors do not only involve state actors', such as ministers, ambassadors, and diplomats, but also NGOs and regional as well as municipal representatives.[9]

This thesis builds mainly on primary sources also from the Political "Sektion" of the Austrian Foreign Ministry between 1972-1989 and the Czechoslovak Embassy in Vienna from 1986 to 1989, as the questions related to nuclear issues were dealt by Foreign Ministries.[10] As Czech Ambassador to Syria H.E. Eva Filipi put it: *"diplomat abroad reports for the Ministry of Foreign Affairs and does not make decisions. Therefore he/she must remain neutral and objective when reporting"*[11]. Having quoted that, the diplomatic correspondence offers unique information on that time, with very few political interventions. Among the documents available in Czech, English, German, and Slovak are various types of, at the time, classified diplomatic correspondence like chiffres, verbal notes, interviews and meeting reports, various analyses and many others. The starting point for the research in the archives was the year 1972 when the first Czechoslovak nuclear power station in Jaslovské Bohunice was opened.

[9] Vincent Pouliot and Jérémie Cornut, "Practice Theory and the Study of Diplomacy: A Research Agenda," *Cooperation and Conflict* 50, no. 3 (September 2015): 297-315. https://doi.org/10.1177/0010836715574913.
[10] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 7225/86.
[11] Student debate with the Czech Ambassador to Syria H.E. Eva Filipi on 29th April 2021. Organized by Diplomatické forum.

2 ON THE SAME BOAT, PRO-NUCLEAR STANCES

In Spring 1945 the Red Army and Allied Powers liberated both Austria and Czechoslovakia from Nazi Germany. Whereas Austria quickly lost its sovereignty and was divided into four occupation zones, Czechoslovakia was restored as a democratic state. Nevertheless, its political direction shifted more towards the East. Also, the mood among Czechoslovaks changed tremendously. They could not forgive the bitter betrayal of western democracies and former allies at the Munich Conference, thus strengthening those who looked to Moscow and its Communist regime for political inspiration. An internal political crisis in February 1948 provided the spark for the Czechoslovak Communist Party to successfully take over the country (the February 1948 Coup d'état), resulting in the closing of borders and Prague joining the camp of socialist satellite states in Central-Eastern Europe led by the Union of Soviet Socialist Republics / Soviet Union (USSR). The Czechoslovak-Soviet friendship was further cemented in April 1948 with the signing of an alliance treaty.[12]

Communists nationalised all enterprises comprising more than 50 workers across all sectors to remove so-called "capitalist exploitation", overcome class differences and easily push technical modernisation. Unemployment did not exist, and every single man had to fulfil his working plan conscientiously. A year later, in 1949, the ČSR associated its economy with the Council for Mutual Economic Assistance (COMECON), an economic organisation of Eastern bloc countries.[13]

One of the first tasks facing the new leadership in Prague was to satisfy the demand for energy consumption to effectively run industry businesses, while simultaneously satisfying people's needs. The Second World War had a negative impact on the condition of many of CŠR's power stations – they were old with high breakdown risks. A considerable effort was put on electrification of villages and railways as well as the building of hundreds of kilometres of new electric cables and securing other electric capacities. KSČ governed Czechoslovak's economy via so-called five-year-plans, ***pětiletky***, which were mainly focused on

[12] František Zbořil, *Československá a česká zahraniční politika: minulost a současnost* (Praha: Leges, 2010), 237.
[13] Václav Šmidrkal et al., eds., *Sousedé: Česko-rakouské vztahy* (Praha: Nakladatelství Lidové noviny, 2020), 248, 254.

heavy industry.[14] Labour output was the priority at the expense of public welfare, so limiting public energy consumption by regularly turning off electricity was nothing unusual in the early period of the communist rule. This method of saving energy could not function for two main reasons caused by the system: First, there was a lack of consumer products, e.g., in the 1950s, one stove accrued to 57 people, one electrified fridge accrued to 38 people, one TV accrued to 22 people, and one washing machine accrued to 15 people. People used their creativity and "substituted" these for home-made "copies", which often led to higher electricity usage. Second, in 1954 Czechoslovakia, as the European star pupil, introduced one single price for electricity, which led to the misuse of low prices, wasting energy, and disinterest in energy production among plants and firms.[15]

On the other side of the shared border there was not much sympathy for communism. Due to the experience of Soviet behaviour in their occupation zone and minimal Soviet engagement concerning rebuilding since WWII, the Austrian Communists only secured 5.03 % in the parliamentary elections in 1949, third place. Communist popularity dropped the following year when the general strike escalated, resembling a coup attempt. The U.S. Marshall Plan (last payment in Austria in 1961)[16] made investments into large projects possible, e.g., building the Westautobahn (Vienna-Salzburg motorway) or finishing the Kaprun and Ybbs-Persenbeug hydroelectric power stations. Austria's open economy and state investments secured a stable economic boom, as shown in the 1960s, which were marked by a 4.4 % economic increase and an unemployment rate below 3 %. A consumer society emerged, and prosperity weakened revolutionary ideas. Whereas in 1949 the GDP of both states was relatively similar, by 1970 Austria's GDP tripled, compared to a two-fold increase in Czechoslovakia.[17]

International trade between capitalist and socialist countries was limited to certain sectors such as mineral oil, gas, and electricity. In 1952, a united electrical system with one headquarter and 220 kV distribution was managed in Czechoslovakia, opening the door for cross-border cooperation with the Republic of Austria, the Hungarian People's Republic, and the Polish People's Republic.

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[14] Miroslav Kubín et al., eds., *Rozvoj energetiky v Československu* (Praha: České energetické závody, 1989), 102-103.
[15] Ibid., 110, 114, 132.
[16] Rauchensteiner, *Unter Beobachtung*, 337-338.
[17] Šmidrkal, ed., *Sousedé*, 238, 240, 244, 250-251, 259-260, 264.

Interconnection among socialist countries flourished with the creation of the Central Dispatching Board for the Unified Power Grid with residence in Prague in July 1962, which meant further scientific energy development within COMECON. The first bilateral energy treaty was signed in 1956 and regulated the energy exchange between both states – Austrian summer water energy surplus was exchanged for Czechoslovak winter energy. Already in 1959, the capacity of 220 kV on the Sokolnice-Bisamberg line was not enough. In 1979, an agreement was reached over the realisation of a 400 kV high voltage direct current back-to-back station for Slavětice-Dürnrohr (realized in 1983), initially planned for the transfer of Polish energy. Moreover, an additional connection between southern Bohemia and Linz was under consideration. This deal was positive for both. Austria ensured energy import and ČSSR since gained Austria as a connection to West German and Swiss energy markets. This is how ČSSR could gain lacking foreign currencies.[18]

Since securing oil was a priority, both countries reached an agreement on 23rd January 1960 to exploit their common oil and gas deposits.[19] The internal successes ensured that the ČSR embraced socialism in 1960, thereby renaming the country the Czechoslovak Socialist Republic.

2.1 Nuclear Energy Boom

Czechoslovak foreign policy was primarily focused around friendly socialist countries and newly de-colonized states as a means of gaining geopolitical influence. Weapons exports, schooling opportunities in ČSR, economic and cultural cooperation with new states, and hegemonic vassalage were characteristics of the late 1950s and 1960s.[20] Austria regained full sovereignty in May 1955. The diplomatic rank of their missions – legations – demonstrated the quality of Austro-Czechoslovak relations; they remained cold with border violations and related shootings. Viennese Sudeten Germans Day in 1959 (gatherings of expelled Sudeten Germans and their relatives requesting compensation and return to Czechoslovakia) only helped communists in their propaganda, justifying their

[18] Kubín, *Rozvoj energetiky*, 109, 189-190, 192-193, 195.
[19] ÖSTA/ADR, BMAA, Pol, Zl. CSSR 2.1/1973.
[20] Zbořil, *Československá a česká zahraniční politika*, 254.

governance to prevent revanchist Germans.[21] . Interestingly, after the Soviet intervention in the Arab-Israeli June war in 1967, Czechoslovakia shifted 180° and suspended diplomatic ties with Israel. Austria, with which the ČSSR had poor relations, represented Czechoslovak interests in the Jewish state until 1990.[22]

Then, the 1960s were characterised by a gradual loosening of tensions with the West. The reformist communist wing under Alexander Dubček was highly criticised for insufficient protection of the Austrian border, which was seen as a threat to the whole socialist camp.[23] After the invasion and suppression of the Prague Spring in 1968, the ČSSR was left internationally isolated. Altogether 93,635 people emigrated to Austria, but only 1,547 settled down.[24]

Moreover, Austria remained deeply concerned about the deployment of nuclear weapons from the ČSSR as there was only one brigade to deploy nuclear weapons.[25] The USSR concluded secret treaties with the ČSSR stating that "under extraordinary circumstances" Soviet weapons could be transferred to Czechoslovakia.[26] That confirmed the Austrian fear, which was present until the collapse of the block system.[27] In 1970, the Non-Proliferation Treaty of Nuclear Weapons entered into force.[28] However, the peaceful use of nuclear power was a different matter. Austrians were not particularly concerned about the peaceful use of nuclear energy, on the contrary, they favoured its use until 1975. Political parties, lobbyists, researchers, and the economy played a leading role.[29]

The mass destruction in Hiroshima and Nagasaki, the heated race between Washington and Moscow to acquire nuclear weapons, and the rising rivalry between two superpowers favoured the peaceful use of the nuclear technology. The peaceful use of nuclear energy could start with revising the status for purely military purposes and restricted access to nuclear information. The United States launched the Atoms-for-Peace programme in 1953/1954 to prevent any

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[21] Rauchensteiner, *Unter Beobachtung*, 326, 353.
[22] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 146114/87-4. ; Zbořil, *Československá a česká zahraniční politika*, 279.
[23] Ibid., 283, 285.
[24] Rauchensteiner, *Unter Beobachtung*, 367.
[25] Ibid., 354, 367.
[26] Zbořil, *Československá a česká zahraniční politika*, 262-263.
[27] Schmoller, "Die Nuklearkatastrophe," 5.
[28] Peter Zweifel, Aaron Praktiknjo and Georg Erdmann, *Energy Economics: Theory and Applications* (Heidelberg: Springer, 2017), 249.
[29] Bayer, "Die Ablehnung der Kernenergie," 171-172. ; Christian Forstner, "Kernspaltung, Kalter Krieg und Österreichs Neutralität," in *Österreich im Kalten Krieg*, ed. Maximilian Graf and Agnes Meisinger (Vienna: Vienna University Press, 2016), 80.

uncontrolled national attempts in nuclear operations and secure the leading American role.[30] The Soviet Union responded adequately after Stalin's death. The USSR gained the very first nuclear energy from a 5 MWe reactor ("Атом Мирный "– "Peaceful Atom") in the first nuclear power station in the world in Obninsk on 27th June 1954.[31] Later, on 18th January 1955, the so-called "brother help" initiative, which offered scientific-technological help in both construction and production to other socialist countries, was announced. These were so-called "contributors to the Eastern bloc's uranium production" and included the likes of the Chinese People's Republic, Czechoslovakia, the German Democratic Republic (GDR), Poland, and Romania.[32]

In the field of nuclear energy, the international competition between West and East continued unabated. Openness in sharing know-how created pressure which helped create a robust international network. The USSR won this race when it concluded the first bilateral Soviet-Romanian Treaty on 22nd April 1955, two months before the American-Turkish one from 10th June 1955.[33] Various multilateral organizations for coordinating nuclear activities and securing nuclear technology would be used for peaceful purposes. For example, the European Council for Nuclear Research (September 1954, West), the Joint Institute for Nuclear Research (March 1956, East), the European Atomic Energy Community (March 1957, West), the International Atomic Energy Agency (July 1957, common platform), or European Nuclear Energy Agency (February 1958, West) were a product of reactionary policies.[34]

Despite political, economic, structural, and ideological differences, the two blocs found common ground in their support for nuclear energy as a safe energy source. Nuclear energy may even be said to have become "in", i.e. fashionable, between 1955 and 1960 and many authors exaggerated and glorified it.[35] For instance, the American Federation of Labour and the World Council of Churches

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[30] Ibid., 183.
[31] Michaela Šmidrkalová, *Vyhlížení atomového věku. I: Popularizace jaderné energie a energetiky v Československu v padesátých letech 20. století* (Praha: Ústav pro soudobé dějiny AV ČR, 2019), 7, 45.
[32] Ginsburgs George, "Soviet Atomic Energy Agreements," *International Organization* 15, no. 1 (1961): 50-51. http://www.jstor.org/stable/2705236.
[33] Ibid., 50, 52.
[34] Ibid., 53, 62. ; Forstner, "Kernspaltung," 73, 81.
[35] Šmidrkalová, *Vyhlížení atomového věku*, 5-6, 9, 18, 20-22, 64, 110.

were persuaded that nuclear energy offered prosperity and jobs.[36] People were persuaded by utopian promises of a nuclear paradise with inventions involving nuclear cars, tractors, trucks, motorcycles, locomotives, airplanes, rockets, batteries, fridges, heating plants, power stations, inter-planet ship flights, underground heating through nuclear steam, X-radiation of crops to prolong its freshness and storage, harvest maximization, medicine and many others.[37]

Nuclear power stations became a reality. They function similarly to heat power stations, (splitting uranium creates heat which with water makes steam that rotates a turbine to generate electricity), which were in wide use at the time. NPSs were attractive also from the point of material efficiency: 1 kg of Uranium-235 used in NPS was equivalent approximately to 3,000,000 kg of coal. An NPS with 1,000 MWe needed 40 tonnes of Uranium-235 annually, compared to 5,000,000 tonnes of coal.[38] From an economic point of view, nuclear energy could generate much more power with a marginal amount of fuel. As Zweifel points out: *"Per MWe of power plant capacity, the natural uranium requirement equals about 160 kg on average per year compared to the 250,000 tons of hard coal per MWe required by a typical coal-fired plant."*[39], thus motivating many governments in the 1950s and 1960s to shift to nuclear energy. The international norm for enriching uranium for peaceful purposes is a maximum of 4 % and it is significant to point out that for nuclear weapons, an enrichment level of >90 % is necessary. Now, this also means that weapons-grade material can be converted to nuclear fuel by blending it with depleted uranium.[40]

2.1.1 "Brother Help": Czechoslovak-Soviet Nuclear Energy Cooperation

Czechoslovak Communists believed that the peaceful usage of nuclear energy might "speed up the run of history of human mankind", as the 19th century Industrial Revolution did.[41] When in power, the KSČ glorified the Soviet "brother help" initiative, and on 23rd April 1955 signed the treaty on Soviet assistance in

[36] Ibid., 112.
[37] Ibid., 6, 54, 64, 75, 77-78.
[38] Kubín, *Rozvoj energetiky*, 149.
[39] Zweifel, Praktiknjo and Erdmann, *Energy Economics*, 254.
[40] Ibid., 251.
[41] Šmidrkal, ed., *Sousedé*, 246.

researching nuclear activities and the usage of nuclear energy for the ČSR's economy. In exchange for export of critical uranium to the USSR, ČSR got necessary equipment, including a 4 MWe research reactor VVR-S (1959)[42] for the newly created Nuclear Research Institute in Řež, radioactive isotopes, experts, trainers, and Soviet documentation, which Czechoslovakia was obliged to keep secret. Special attention was paid to nuclear education, establishing new schools and faculties (e.g., Faculty of Technical and Nuclear Physics), and opportunities to send and educate students in the USSR.[43]

In addition, KSČ followed this global trend and heavily popularised nuclear energy to justify a new energy policy and socialist form of government. Nevertheless, other forms of power generation were still in use. With Soviet assistance, KSČ ran a popularisation campaign on peaceful usage of nuclear energy through the press, radio (e.g., via talks accompanied with homework to be sent to the editorial staff), television, exhibition, and other tools such as the so-called "nukespeak", which is a positive nuclear language. Nuclear issues became subjects of small talks, people enthusiastically attended public and company lectures, and not even the nuclear crash of the British NPS in Windscale in 1957 could discourage them.[44]

Also, on the highest-level, nuclear energy was highly ideologized, politicised and readjusted. Whereas in the beginning, Czechoslovak communists were spooked by the American nuclear attacks on Japan, by the late 1950s they claimed that nuclear bombs did not have such power and the cities of Hiroshima and Nagasaki were destroyed because of everything being built from bamboo, not bricks.[45] Communists had a utopian vision to conquer nature with nuclear energy. Initially, the USSR intended to use directed nuclear explosions to change river flows, bring water to dry places, build dams, and form mountains. However, when the U.S. mentioned similar intentions for constructing channels, ports and uncovering raw material fields in 1958, the USSR stood against it.[46] In the 1960s and 1970s, communists blamed the militarist United States for an absence of a

[42] Zbořil, Československá a česká zahraniční politika, 401.
[43] *Třicet let československého jaderného programu* (Praha: Československá komise pro jadernou energii,1985), 36. (ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.60/1986.) ; Ginsburgs, "Soviet Atomic Energy Agreements," 50.
[44] Šmidrkalová, *Vyhlížení atomového věku*, 5-6, 9, 18, 20-22, 64, 110.
[45] Ibid.,13-17, 110-111.
[46] Ibid., 58, 64.

denuclearisation progress by keeping nuclear bombs, while glorifying the Soviet peaceful nuclear energy usage programme in the United Nations. It was also stressed that socialist countries stood behind the establishment of the International Atomic Energy Agency (IAEA) as well as the Treaty on the Non-Proliferation of Nuclear Weapons.[47] Free of the stigma that the United States had, due to its use of nuclear weapons against Japan during WWII, the Soviet Union was rhetorically able to separate its purported nuclear energy peace programme from Washington's militaristic nuclear weapons programmes. There were not many antinuclear opponents in Czechoslovakia compared to the West, where nuclear energy supporters (enthusiastic about the promising vision that nuclear energy provided) and opponents (fearing nuclear war) coexisted side by side.[48]

The Soviet Union did not initially plan to integrate its satellite states into its nuclear programme, it simply wanted their uranium. Nevertheless, it reconsidered its plans and deepened its assistance and knowledge sharing as a reaction to its fear of U.S. leadership. Surprisingly, the USSR now wanted its allies to enjoy the benefits of their exploited uranium. The fruits of negotiations from early 1956 were harvested on 17th March 1956 when both governments signed a treaty stipulating Soviet help on the construction of nuclear power station A-1, projected to open in 1960. Additionally, the ČSSR and the USSR closely cooperated on creating a heavy water gas-cooled reactor that would enable domestic sources of nuclear fuel.[49] NPSs were projected to become a primary energy source in 1975 with an output of 6,900 MWe. In April 1956, the Czechoslovak parliamentary delegation travelled to the Soviet Union to visit the NPS in Obninsk.[50] However, in 1956 and again in mid-1957, Czechoslovakia reassured Moscow regarding further uranium export.[51] In 1958, construction began in Slovakia on the first A1 system of the very first Czechoslovak nuclear power plant, Jaslovské Bohunice.

The nuclear interest of many Czechoslovaks did not fall, also because of the advanced Czechoslovak industry and the large amount of attention given to technical education. Up to that time, heat power stations were widespread, where

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[47] *Třicet let československého jaderného programu* (Praha: Československá komise pro jadernou energii,1985), 26. (ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.60/1986.)
[48] Šmidrkalová, *Vyhlížení atomového věku*, 111.
[49] Zbořil, Československá a česká zahraniční politika, 400-401.
[50] Šmidrkalová, *Vyhlížení atomového věku*, 49, 87-89.
[51] Ginsburgs, "Soviet Atomic Energy Agreements," 60-61.

coal was used to generate heat and energy. Communists simply did not want to waste materials in the chemical industry, that they preferred to save for future generations. Of all COMECON states, the ČSSR had the highest coal consumption per KWh.[52] Communists justified the energy policy charge by keeping around 3,450,000 tonnes of coal annually, saving money and people's mining work.[53] In the mid-1980s the ČSSR added an additional argument, saying a reduction of sulphur emissions in coal utilization was an internationally obligation.[54] Ecology was not an argument yet. For instance, water was seen as an inferior energy source, so waterpower stations on rivers Danube, Váh, or Vltava were not considered. However, some obstacles were hard to overcome. All rivers flow out of the country, and much more water was needed in agriculture, while there were international commitments on river transport, e.g., Elbe river.[55]

In contrast to the mass enthusiasm of the second half of the 1950s, the 1960s saw utopian plans turned into fear of how to solve technically demanding problems. Nuclear amenities were presented to the public as "almost enough", soon manageable, whereas the reality was far away. Even the top government and party members contemplated whether construction works on the first nuclear plant should be stopped between 1961-1963, and it was.[56] Critical voices like "tragedy from the global point of view" appeared again during the reformist movement within KSČ under Alexander Dubček during the so-called Prague Spring as the construction work exceeded the projected opening and deadlines were missed. This marked other future projects as well.[57]

Both the Czechoslovak Atomic Energy Commission and Soviet State Committee on the Utilization of Atomic Energy worked on joint research. Moreover, the ČSSR concluded additional treaties with the USSR about 1) scientific-technical cooperation in nuclear energetics and technique in 1962, 2) construction of nuclear power stations with VVER-440 reactors with an output of 1,760 MWe from 30th April 1970[58], 3) specialization and cooperation of Czechoslovak and

[52] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.42/1987.
[53] Kubín, *Rozvoj energetiky*, 132.
[54] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.116/1988.
[55] Kubín, *Rozvoj energetiky*, 104, 127.
[56] Šmidrkalová, *Vyhlížení atomového věku*, 101, 114.
[57] Ibid., 100.
[58] Zbořil, *Československá a česká zahraniční politika*, 401.

Soviet industry in the production of nuclear energy apparatus (deliveries of nuclear apparatus to Bulgaria, GDR, and Hungary) in 1974.[59]

The 1970 treaty concluded with an extension of atomic power plants, namely building two NPSs with two additional safe VVER-440 reactors, V1 (construction work between 1972-1980/1981) and V2 (construction work between 1976-1985), in Jaslovské Bohunice and four further VVER-440 reactors in other locations, one of them being a modern VVER-440 type V-213 in Dukovany in Southern Moravia.[60] Furthermore, cooperation flourished within COMECON, particularly in the Permanent Commission for Electricity since 1958 and the Peaceful Uses of Atomic Energy since 1960.[61] The ČSR specialised and produced some parts for NPSs. The first system of the Jaslovské Bohunice NPS A1 with one reactor was finished in 1972, and it was the only NPS with two reactors working on heavy water, as the technique itself was challenging to construct and run. However, that system was chosen as it enabled the use of cheap unenriched uranium, which Czechoslovakia exploited domestically. Nevertheless, the facility was deconstructed again in 1979 as any potentially higher output of that reactor was not profitable.[62] Then the future outlook for NPSs relied on the Soviet light water-cooled reactors VVER.[63]

2.1.2 "Needed Help" – American Help Hand

Austria, similarly, to Czechoslovakia, had a governmental monopoly on energy production until the late 1980s. Although the first research on nuclear reactors appeared in the 1960s, traditional water and oil-based plants were still considered much cheaper. Not even plans from 1956 on doubling energy consumption requirements for a decade changed the view to refocus toward nuclear power from coal. As mentioned earlier, Austria had a surplus of energy in the summer, when consumption was lower compared to winter. In winter, Austria also had to import coal and oil. Water energy could not cover the growing energy demand, and already in 1955, Austria had to import energy, leading to up to 50 %

[59] Ibid., 401. ; *Třicet let československého jaderného programu* (Praha: Československá komise pro jadernou energii,1985), 18, 36. (ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.60/1986.)
[60] Kubín, *Rozvoj energetiky*, 149, 150. ; Zbořil, *Československá a česká zahraniční politika*, 401.
[61] Zbořil, *Československá a česká zahraniční politika*, 242-243.
[62] Ibid., 401.
[63] Šmidrkalová, *Vyhlížení atomového věku*, 100, 102.

dependency on energy import in 1970. The USSR's and the Organization of the Petroleum Exporting Countries' (OPEC) solution for reducing oil dependency was nuclear energy.[64]

As a result, Austria felt the need to keep up with global trends. Unlike Nazi-Germany, Austria, since it was not on the losing side of WWII, could continue its pre-war nuclear research from 1938 before regaining complete independence one decade later in 1955. Austria joined the American Atoms-for-Peace programme and focused on the German Federal Republic (GFR) and Switzerland in its own research.[65] However, the lack of specialised personnel, material, and financial resources limited the proper functioning of the Institute for Radium Research. Apart from the academic interests in Austria, there were parallel industry interests as well, for which energy representatives and politics established the Austrian Study Society for Atomic Energy (SGAE) in May 1956. The SGAE co-operated on research with France, the United Kingdom, Poland, Sweden and Switzerland.[66] Due to the need for international cooperation, Austria decided in 1956 to sign a bilateral treaty on the peaceful use of nuclear energy with the United States and adopted a decision to build a Research Centre in Seibersdorf (1960). Other research centres like the Atomic Institute of the Austrian Universities (1959) diversified the research. Research reactors operated by universities were to be found in the Viennese Prater and Graz. Two nuclear power plants – Zwentendorf and St. Pantaleon-Erla (eastwards of Linz) – were planned to cover Austria's long-term electricity demand.[67] In 1957, Vienna became the hosting city of the International Atomic Energy Agency. Representatives of the Austrian industry have long before approved of constructing a NPS in Zwentendorf.[68]

Upon receiving the licence from U.S. General Electric in 1958, Austria approved the construction of the first nuclear power station in Zwentendorf with an output of 732 MWe and the Hainburg waterpower station.[69] The Zwentendorf NPS project was presented as a "prestigious" and "job-creating" project in 1967. And,

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[64] Forstner, "Kernspaltung," 91.
[65] Ibid., 93.
[66] *Berichte der Österreichischen Studiengesellschaft für Atomenergie Ges. m. b. H.: Abschlußbericht über die Forschungs-und Entwicklungsarbeiten im Jahre 1971* (SGAE Ber. No. 2004, März 1972), 64-66. (ÖSTA/ADR, BMAA, Pol, Zl. ATOM 113/1972.)
[67] Rauchensteiner, *Unter Beobachtung*, 369.
[68] Forstner, "Kernspaltung," 73, 77, 79, 85-87, 91.
[69] Kubín, *Rozvoj energetiky*, 149. ; Veber, *Dějiny Rakouska*, 599.

in the early 1970s, every second Austrian agreed with its construction. In November 1969, the construction place in Zwentendorf was authorised and the construction works started later in April 1972.[70] Due to the crash in the West German Würgassen NPS in April 1972, construction works were delayed about two years.[71]

Whereas Czechoslovakia was an authoritarian Communist state, Austria was a democratic state. A new political reality, unknown in Austria until 1966, fatally determined the destiny of the peaceful use of nuclear energy there. Three parties, the ÖVP, the SPÖ, and the FPÖ (Freedom Party of Austria / national-conservative, far right), were continually represented in the Austrian parliament, *Nationalrat*, and for more than a decade, Austria was ruled by the SPÖ-ÖVP grand coalition. This political model broke down for almost two decades between 1966-1983 when Austria experienced one-party governments.

Government built			
in	by	in	by
1945	ÖVP-SPÖ-KPÖ	1970	SPÖ
1949	ÖVP-SPÖ	1971	SPÖ
1953	ÖVP-SPÖ	1975	SPÖ
1956	ÖVP-SPÖ	1979	SPÖ
1959	ÖVP-SPÖ	1983	SPÖ-FPÖ
1962	ÖVP-SPÖ	1986	SPÖ-ÖVP
1966	ÖVP	1990	SPÖ-ÖVP

Figure 2: List of Austrian Federal Governments between 1945 and 1990.[72]

For further understanding, it is important to stress that the first and last one-party government in Austria of the ÖVP between 1966 and 1970 favoured a project to construct an Austrian nuclear power station. In 1967, the Transport Ministry, together with state companies, held an inquiry about nuclear energy. Energy companies were not united at the time and opposed the ÖVP initiative. Two institutions were established, the *Kernkraftwerksplanungsgesellschaft GmbH*, in charge of planning other NPSs in Austria and the *Gemeinschaftskraftwerk*

[70] Florian Bayer, "Die Ablehnung der Kernenergie in Österreich: Ein Anti-Atom-Konsens als Errungenschaft einer sozialen Bewegung?," *Momentum Quarterly* 3, no. 2 (2014): 172. ; Rauchensteiner, *Unter Beobachtung*, 404-405.
[71] Forstner, "Kernspaltung," 93.
[72] "Regierungen seit 1945," Bundeskanzleramt, accessed 30th April 2021, https://www.bundeskanzleramt.gv.at/bundeskanzleramt/geschichte/regierungen-seit-1945.html.

Tullnerfeld GmbH responsible for planning the NPS in Zwentendorf.[73] Nuclear energy was perceived as a technology of the future. Austria expected long-lasting and cheap energy prices, generating new jobs and economic growth. Nevertheless, the final decision on commissioning the project was made in March 1971 under the SPÖ minority government, and in February 1972, the first construction works in Zwentendorf began.[74]

Around 1968, the World experienced generational clashes, pitting children against their parents, known as Counterculture. The taboo topic of personal destiny during WWII crystallised in West Germany, French youth fought against established conservatism by President de Gaulle, and the hippy movement emerged in the United States. Among the characteristic topics in Austria were university issues, press freedom, sexuality, women's rights, peace, U.S. engagement in the Vietnam War, and the environment, including support for antinuclear movements. Antinuclear arguments made by John W. Gofman and Arthur Tamplin about radioactivity and its health consequences from 1967 as well as the broad list of ideas criticising the big unknown and the fear resulting from no simulation tests or learning from a potential crash of a nuclear power station rooted in Austria, fuelled the Easter March Movement, *Ostermarchbewegung*, against nuclear weapons.[75] The antinuclear movement against the Zwentendorf power station consisted of a small number of opponents from various groups including peace fighters and environmental activists on the one side, and Maoists, farmers, and conservative Catholics on the other side of the political spectrum involved.[76] At the beginning, in 1970, the anti-*Zwentendorf* movement was made up of 200 activists.[77]

2.2 Certainty vs Doubts and Hesitation

Numerous events occurred between 1972-1978, which had a decisive impact on Austria's development of the use of nuclear energy. One of these was a growing concern about the relative closeness of foreign nuclear power plants to Austria´s borders. Austrians faced a problem, namely the exact definition of the

[73] Forstner, "Kernspaltung," 92.
[74] Ibid., 92.
[75] Broda, ed., *Kernenergie*, 26, 28-29, 31, 34.
[76] Rauchensteiner, *Unter Beobachtung*, 359-361, 405, 421. ; Šmidrkal, ed., *Sousedé*, 272-273.
[77] Bayer, "Die Ablehnung der Kernenergie," 172-174.

word “near”. The IAEA responded to the Austrian Federal Ministry for External Affairs (BMAA), who was responsible for answering numerous inquiries about domestic and foreign nuclear apparatuses of parliamentarians, individual´s and institution´s, stating that *“… the term “near” is not precise…”*.[78] The IAEA divided the foreign nuclear power plants into two categories of distances from a NPS to the nearest point of the Austrian state border (0-50 km and 50-200 km). The distance was “approximate” and went through information provided by the Member States. In 1977, 13 operating and planned NPSs [more NPS were located in the exact location (Gundremmingen and Dukovany)][79] were to be found in five countries around Austria – the ČSSR, Hungary, Yugoslavia, Switzerland, and West Germany. Nevertheless, in 1977 some Austrian officials still ran a campaign in favour of the Zwentendorf NPS. The term “encircled” was already used by some Austrian politicians in 1977, but the term was only really applicable after 5th November 1978.[80] Nevertheless, until then, Czechoslovakia could counter the Austrian concerns with the same argument, since the Austrian NPS was situated just 60 km from the Austro-Czechoslovak border.

0-50 km distance				50-200 km distance		
State	Name	Distance (km)		State	Name	Distance (km)
Switzerland	Rüthi	less than 1		West Germany	Isar	70
West Germany	Marienberg	20		Yugoslavia	Krsko	80
West Germany	Pleinting	30		Switzerland	Leibstadt	110
Czechoslovakia	Dukovany	35		Switzerland	Gösgen	120
Czechoslovakia	Bohunice	50		Switzerland	Kaiseraugst	145
				West Germany	Gundremmingen	160
				Hungary	Paks	190
				West Germany	Neckar	200

Figure 3: Distance among foreign NPSs and Austrian borders according to IAEA.[81]

[78] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.6/1977.
[79] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.9/1977.
[80] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.59/1977.
[81] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.9/1977.

Figure 4: Austrian nuclear power plant in Zwentendorf could have potentially threatened Czechoslovak citizens as well, located approximately 60 km from the joint borders.[82]

Austria uses the distance argument to fight nuclear energy wherever it can, even today. In 1972, the ČSSR opened its very first NPS in Jaslovské Bohunice. 700 km away on the opposite side of the country, directly on the Swiss-Austrian border, Switzerland intended to build a Rüthi nuclear power plant. The first anti-nuclear protests started there. The people of Vorarlberg protested against the planned construction of the power plant. The protest of thousands of people received widespread coverage in the local press. The federal government in Vienna then contacted the Swiss and shared their concerns about the possible impact on the Austrian territory of Vorarlberg and asked Switzerland to find alternative locations for that nuclear power plant. The issue was solved by appointing a joint Austrian-Swiss Expert Commission. It discussed issues such as consequences of cooling towers for agriculture and weather.[83] In 1978, the Rüthi NPS was placed last on the agenda in the Swiss NPS programme and in the end it was never realised.[84] A similar approach was then also used for negotiations with Czechoslovakia.

The location of the NPS was not random or intentionally provocative but reflected the size of Czechoslovakia. One year after commercialising the Jaslovské Bohunice NPS in Slovakia, construction works on the Czech Dukovany

[82] ÖSTA/ADR, BMAA, Pol, Zl. 1005.01.05/1978.
[83] Bayer, "Die Ablehnung der Kernenergie," 172-174. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.6/1977.
[84] ÖSTA/ADR, BMAA, Pol, Zl. 1000.03.98,91/1978.

nuclear power plant started. The intention was to save up to 300,000,000 m^3 of gas yearly, which would be used to heat households in the western parts of the third-largest city Brno as well as to develop the fishing industry and new agricultural approaches.[85] Originally, there were around 40 potential locations for the Czech NPS. Dukovany fulfilled all conditions for such a nuclear power plant, including a stable geological subsoil with no land movements, a relatively isolated location with no settlements within a 3 km radius of the NPS, and close proximity to a water source for reactor cooling. The Dukovany NPS uses water from the nearby Dalešice Dam, which is on the river Jihlava.[86] However, construction was interrupted between 1975-1978 to prioritise the construction of a NPS in Slovakia (V1 and V2). The Dukovany reactors were of the "Voronezh" type (VVER-440) and had been used in the USSR since 1963. Although the reactor had to be imported from the USSR, the ČSSR engineers were fully in charge of the cooling system.[87]

Poor relations between the two nations also prevented any potential cooperation in nuclear energy. This illustrates the Austrian response to the Czechoslovak Atomic Energy Commission Chairman Jan Neumann's proposal on atomic cooperation on 17th July 1972. The BMAA stated, *"…according to the current state of relations between Austria and the ČSSR, there is no interest in intensifying contacts on nuclear matters."*[88]

An unofficial exchange on nuclear issues between experts like Mr. Neumann and his Austrian colleagues happened during IAEA sessions.[89] Austria therefore knew about certain critical developments such as the delay in the opening of the NPS Jaslovské Bohunice and its V1 and V2 between 1977-1980. Vienna also knew that the ČSSR negotiated a new treaty with the USSR, that the ČSSR participated in research on increasing reactor output up to 1,000 MWe and other reactor types, that the ČSSR industry was capable of constructing NPSs, although without reactors, that the ČSSR was on its way to getting a Voronezh-type reactor etc. The ČSSR reckoned with six NPSs in 1985 and intended to generate 10 to 12,000 MWe from 16 nuclear reactors (equal to the total output

[85] Kubín, *Rozvoj energetiky*, 152.
[86] ÖSTA/ADR, BMAA, Pol, Zl. ATOM 122.1/1972.
[87] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.6/1977. ; ÖSTA/ADR, BMAA, Pol, Zl. 35.18.01.31/1977.
[88] ÖSTA/ADR, BMAA, Pol, Zl. ATOM 115.3/1972.
[89] ÖSTA/ADR, BMAA, Pol, Zl. 1000.03.98.91/1978.

from all working power plants in the ČSSR in 1972)[90]; after 1985, any further NPSs were not to be built.[91] The Austrian Embassy in Prague reported in 1977 via chiffre the following nuclear energy output percentage: until 1980 = 3,3 %, in 1990 = 17,9 %, and in 2000 = 40,4 %[92]

Country	Reactor name	Location	Approximate distance from Austrian borders	Reactor type	Output (MWe)	Commercial operation date	Present status
Czecho-slovakia	A-1 Bohunice	Bohunice	50	HWCCA	110	1972	operating
	Bohunice-1	Trnava	50	PWR	380	Jan-1978	constructing
	Bohunice-2	Trnava	50	PWR	380	Jan-1979	constructing
	Dukovany 1	Dukovany	35	PWR	420	Jan-1980	constructing
	Dukovany 2	Dukovany	35	PWR	420	Dec-1980	constructing
	Dukovany 3	Dukovany	35	PWR	420	1983	planned
	Dukovany 4	Dukovany	35	PWR	420	1984	planned

Figure 5: Information about Czechoslovak NPSs provided to BMAA in 1977.[93]

Austria's recognition of the German Democratic Republic in 1971 and the normalisation of relations between the ČSSR and the German Federal Republic in 1973 signalled a potential thaw in Czechoslovak-Austrian antagonism. Till then, Austria had only been willing to have informal meetings with Czechoslovakia.[94] Both sides were aware of their strained political ties and expressed support for improving ties. For example, in August 1972, the First Secretary of KSČ, Gustáv Husák, opened a new bridge over the Danube in Bratislava. Also, foreign ministers met for the first time since WWII at the Czechoslovak Delegation to the United Nations in September 1972.[95] However, the normalisation process was accompanied by the Possession Treaty on compensation demands of expelled Sudeten Germans, which regularly slowed things down. Other issues included airspace violations from both sides, sometimes resulting in victims[96], bullying during border controls from the ČSSR, like whether people have a "proper haircut"[97] and possibly belonged to the so-called *Máničky* (young people with long hair

[90] ÖSTA/ADR, BMAA, Pol, Zl. ATOM 122.1/1972.
[91] ÖSTA/ADR, BMAA, Pol, Zl. ATOM 115.1/1972.
[92] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.4/1977.
[93] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.6/1977.
[94] ÖSTA/ADR, BMAA, Pol, Zl. CSSR-2.21/1972. ; ÖSTA/ADR, BMAA, Pol, Zl. CSSR-2.22/1972. ; ÖSTA/ADR, BMAA, Pol, Zl. CSSR-2.26/1972.
[95] ÖSTA/ADR, BMAA, Pol, Zl. CSSR-2.22/1972.
[96] ÖSTA/ADR, BMAA, Pol, Zl. 35.02.02.2/1975.
[97] ÖSTA/ADR, BMAA, Pol, Zl. CSSR-2.20/1972.

following the Hippies pattern), border check of a Czechoslovak diplomat[98], and violation of the state border by a ČSSR soldier[99] or a drunk Austrian[100]. Border issues improved in December 1973, when the Common State Border Treaty was signed.[101] Only after signing the Possession Treaty on 19th December 1974 with 1.2 billion ATS attached,[102] could both legations in Prague and Vienna be ranked to embassies. Normalisation in mutual affairs began and foreign ministers could now pay official visits to the respective capital.

Austria was particularly concerned about Czechoslovakia's intention to build the Dukovany nuclear power plant. In November 1975, Vienna submitted a questionnaire relating to this NPS to the ČSSR. However, the Czechoslovaks were deliberately slow in responding, necessitating a more vociferous response from Austria. In July 1976, the ČSSR stated that as the opening would not take place in 1980, as planned, it viewed the questionnaire as "irrelevant".[103] Simultaneously, plans for the second Austrian NPS in Stein/St. Pantaleon close to Linz failed due to enormous media publicity, a negative campaign towards peaceful use of nuclear energy, and the events relating to the Swiss Rüthi NPS (1972) and the GFR's Wyhl NPS (1975), which had been occupied by members of anti-NPSs movements.[104] Meanwhile, in December 1975, the Czechoslovak-Austrian Joint Commission sat for the first time to discuss bilateral issues. This included a number of ministerial meetings resulting in a setup similar to the Austro-Hungarian Joint Commission from 1970. This discussion forum took place annually and the long-term Austrian goal was to reach an agreement on consultations and the exchange of information in connection with the planning, construction and operation of nuclear power plants.

The Austrian's disappointment resulted from several accidents in foreign nuclear power plants. The International Nuclear Event Scale (INES) evaluates crashes with seven degrees of warnings. On 5th January 1976, the NPS Jaslovské Bohunice A1 experienced a first crash (degree 3) involving a CO_2 leakage resulting in two people dying. Austrian Historian Hildegard Schmoller stated

[98] ÖSTA/ADR, BMAA, Pol, Zl. 1000 - 1008 IAEO.10/1974.
[99] ÖSTA/ADR, BMAA, Pol, Zl. 35.02.02.2/1975.
[100] ÖSTA/ADR, BMAA, Pol, Zl. CSSR-2.1/1972.
[101] Zbořil, *Československá a česká zahraniční politika*, 293.
[102] Šmidrkal, ed., *Sousedé*, 285.
[103] ÖSTA/ADR, BMAA, Pol, Zl. 35.18.01.31/1977.
[104] Bayer, "Die Ablehnung der Kernenergie," 174-176.

that *"… a disaster similar to that in Chernobyl was barely prevented "*.[105] The NPS was put into operation after that incident, and on 22nd February 1977, a second crash occurred (degree 4) when radioactive water got into the sewers and a nearby stream.[106] After that, block A1 was shut down. There were no intergovernmental agreements between Austria and any of its neighbouring states on the safety regulations, alarm plans, monitoring to be complied with. Regarding the ČSSR, Austria was interested in being informed about everything, including the prevention of major incidents, taking necessary precautions, using standard operation as well as evaluations of expected emissions in case of radioactive accidents.[107]

This was the period when the SPÖ and the ÖVP split on further support for peaceful use of nuclear energy, although both, together with a research community, supported and promoted nuclear energy until 1975.[108] There were also disputes between the ruling SPÖ and unions about nuclear energy policy, which lost its appeal due to a diminishing belief in technical advance.[109] Ruling SPÖ Chancellor Bruno Kreisky reacted to increasing scepticism in Austrian society and started preparing the "Information Campaign Nuclear Energy" *("Informationskampagne Kernenergie"*) reflecting the pros and cons of nuclear power plants. Regardless of the cost, nuclear energy scientists and experts as well as academics in all fields related to nuclear power should be reached to advocate in favour of nuclear energy in this campaign. It was advised to see how Switzerland and Sweden (national plans for construction of NPSs in these countries were made available to the public) are conducting nuclear education (brochures, news).[110] The purpose was to get rid of the counterarguments, but it led to the opposite reaction. There was a deficit of scientific understanding among Austrians and a lack of cooperation between society, market and other actors, which made constructive debates difficult.[111] Protest movements rapidly expanded to include new life advocates, nature conservationists, left activists, and some scientific experts.[112]

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[105] Schmoller, "Die Nuklearkatastrophe," 3.
[106] ÖSTA/ADR, BMAA, Pol, Zl. 35.03.05.43/1978. ; Zbořil, *Československá a česká zahraniční politika*, 401.
[107] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.9/1977.
[108] Bayer, "Die Ablehnung der Kernenergie," 172.
[109] Šmidrkal, ed., *Sousedé*, 315.
[110] ÖSTA/ADR, BMAA, Pol, Zl. 1005.01.08/1975.
[111] Forstner, "Kernspaltung," 89.
[112] Bayer, "Die Ablehnung der Kernenergie," 175, 183.

Regional protest movements became a national movement under “Initiative Austrian Nuclear Power Opponents” (*“Initiative Österreichischer Atomkraftgegner”*) (IÖAG) declaring four “No” requests in 1976:

1. “No” to the opening of the NPS in Zwentendorf,
2. “No” to any further NPSs in Austria,
3. “No” to NPSs on Austrian borders,
4. “No” to the storage of burned nuclear fuel on Austrian soil.[113]

People were increasingly concerned about the consequences of storing burned nuclear fuel, especially regarding earthquakes and nuclear war.[114] The protesters also expressed solidarity with their foreign counter part, addressing a letter for example to the French Embassy in Austria to stop criminalising antinuclear movements against NPSs and release the detained from Malville from 31st July 1977.[115]

[113] Ibid., 172-174.
[114] Šmidrkal, ed., *Sousedé*, 315.
[115] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.10/1977.

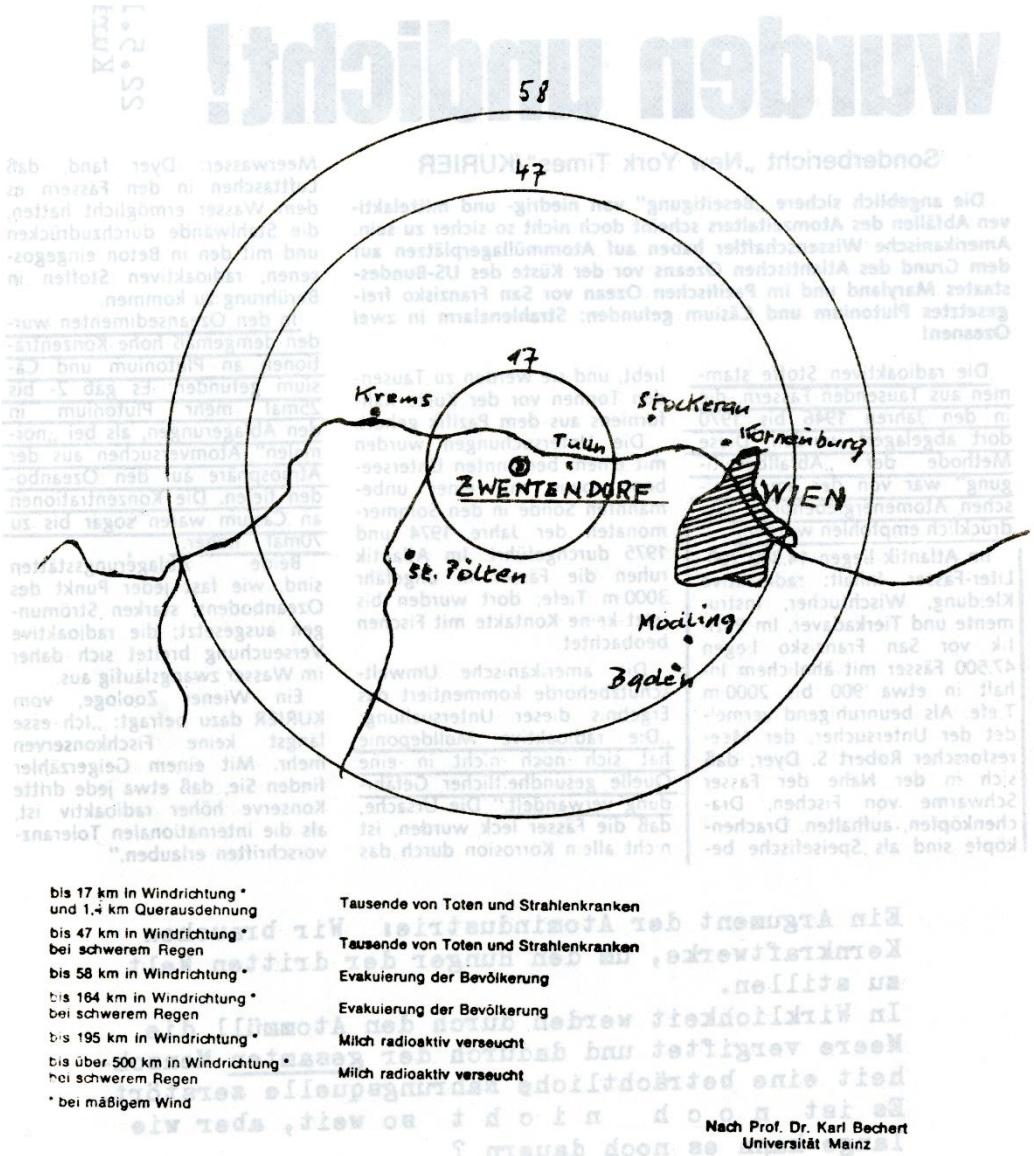

Figure 6: The Zwentendorf nuclear power plant with emergency planning zones. People living 47 km from the NPS would immediately or later die on radiation when heavy raining.[116]

That Kreisky supported the opening of the Zwentendorf NPS illustrates correspondence with the World Union for Protection of Life. This organisation demanded *"stopping the untrue, misleading atomic propaganda by the Austrian electricity industry, particularly the "Enlightenment letters" sent to 70,000 opinion leaders in Austria."*[117] It labelled the government brochure "Nuclear energy – a problem of our time", (*"Kernenergie – ein Problem unserer Zeit"*) in German, published by the "Austrian Federal Press Agency", (*"Bundespressedienst"*), as misleading, containing incorrect data and demanded a publication of a new brochure.

[116] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.7.8.9.11/1978.
[117] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.51/1977.

It also wanted the inclusion of certain people in public debates. It demanded a nuclear free zone in Central Europe, saying that *"only by renouncing its own nuclear power plants will Austria retain the moral right to intervene against nuclear power plants near the border."*[118] Kreisky did not have a problem with the inclusion of certain people in public debates and a second edition of the brochure. In his response from 1st March 1977, he said that the Zwentendorf NPS should open after tests and a solution of what to do with burned nuclear fuel is found.

> *"The decision on the possible construction of further nuclear power plants is still completely open. Once the information and opinion-forming process that is currently underway has been completed, the Federal Government will report to Parliament, i.e. the institution that is responsible for representing popular opinion and taking decisions that are decisive for the government's action. So I do not consider a declaration by Austria to be a nuclear-free country to be realistic in the current phase."*[119]

He ensured that the decision about opening would be independent of any influence from the construction or opening of any foreign nuclear power plant.[120] In August 1977, Austria, the ČSSR, and Poland signed an Electricity Supply Contract which increased the import of electricity from 400 to 1,200 MWe.

In August 1975, Chancellor Bruno Kreisky met President Gustáv Husák of Czechoslovakia in Helsinki during the Conference on Security and Cooperation in Europe. The first state visits of heads of governments since 1918 took place later on. Kreisky visited the ČSSR between 16th – 17th February 1976 and Prime Minister Lubomír Štrougal reciprocated between 22nd – 23rd November 1977.[121] But bilateral relations – evaluated from Austrian side as "quickly normalised" and from Czechoslovak side as "good"[122] – found themselves once again in trouble after Kreisky delivered remarks on the civic initiative Charta 77 (an anti-

[118] Ibid.
[119] Ibid.
[120] Ibid.
[121] ÖSTA/ADR, BMAA, Pol, Zl. 35.18.01.74/1977. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.51/1977.
[122] ÖSTA/ADR, BMAA, Pol, Zl. 35.18.01.60/1977.

communist movement pointing out not respecting ČSSR's commitments from Helsinki) bringing up the violations of fundamental human rights in the ČSSR.[123] In later years, hot topics were mainly espionage, negative media reports, or the Sudeten German Days in Vienna in 1977 and 1983 with ten thousand participants.[124]

On his visit to Vienna, Štrougal openly answered questions addressing Czechoslovak nuclear issues during official meetings as well as at a press conference. So, Austrians learned about the shutdown of Bohunice A1 and the commissioning of two new blocks of the new reactor type Voronezh whose security was presented as "oversized". They also learned about there being no future for hard water reactors in socialist countries, prospects and plans for the amount of nuclear operations in Czechoslovakia, including Czechoslovak intentions to construct additional nuclear power plants along its southern border in Dukovany. He promised that Austrian qualified experts should get permission to the projects close to the border so as to make sure they are safe.[125] He said that the ČSSR did not see any other way of generating energy than through nuclear operations.[126] In November 1978, Soviet Minister of Energy and Electrification Pyotr Neporozni visited the construction of Jaslovské Bohunice to further discuss the opening of the first Voronezh reactor in the ČSSR. He also took part in the conference about NPS security in Carlsbad where about 12 Czechoslovak NPSs were debated.[127]

That, however, created other concerns and another dimension in the fight against NPSs in Austria. For example, the parliamentary inquiry No. 1290/J demanded establishing official contact with the ČSSR.[128] Nevertheless, the number of protest letters grew. For example, the Citizen's Initiative "Weinsberg – Forst" reported of 97 % of the Waldviertel's citizens, in a bordering region to the ČSSR, being worried about this topic, and demanded a revision of the location. They threatened to boycott Czechoslovak products and would protest directly on the

[123] Kunštát, "Česko-rakouské paralely," 83.
[124] Šmidrkal, ed., *Sousedé*, 289.
[125] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.41/1977. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.50/1977. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.51/1977.
[126] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.50/1977.
[127] ÖSTA/ADR, BMAA, Pol, Zl. 35.03.05.43/1978.
[128] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.59/1977.

border in January 1978.[129] Mayors of Lower Austrian Waldviertel asked about the location of the Czechoslovak NPSs and the nuclear waste storages. The Austrian Health Ministry shared its recommendations with BMAA for discussion with the ČSSR, to ensure that the population on both sides enjoy the same safety and immediate warnings if a crash were to occur, reporting about potential consequences for other states.[130] When the ČSSR wished to cooperate in 1972, there was no such wish on Austrian side. Four years later, Austria was forced by its people to establish official talks. The ČSSR proposed expert talks instead of filling out the questionnaire concerning the Dukovany NPS. Austria accepted to calm down worried people.[131] Austria urged the Czechoslovak side to negotiate and conclude a treaty on nuclear power plants close to the shared border. For four days in January 1978, for the first time, Czechoslovak and Austrian experts officially started exchanging experiences on security when using nuclear energy.[132] (among the topics proposed by Vienna was the nuclear programme in both states, an idea exchange about construction and operation of the NPSs and questions related to the closeness to bordering regions). The existence of distrust was illustrated when the Austrians demanded to have their own interpreter to ensure that he/she translated everything correctly.[133] The Ministry of Foreign Affairs of Czechoslovakia (MZV) stated in an official document regarding Austrian security concerns that *"… nuclear power stations in the ČSSR are safe for the Czechoslovak people"*.[134] Contacts with regard to nuclear power plants were also established with West Germany.

Regarding the Zwentendorf nuclear power plant, the initial five-year construction plan and planned investment were not met. Demand for more and more security resulted in an explosion of the costs and delays so that the Zwentendorf NPS was only finished in the summer of 1977. Originally, the SPÖ government intended to have a whole-political consensus (the SPÖ, the ÖVP and the FPÖ) as a condition for operating of the nuclear power plant, but this was then changed

[129] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.36/1977. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.54/1977. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.55/1977.
[130] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.58/1977.
[131] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.6/1977.
[132] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.56/1977.
[133] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.46/1977.
[134] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 433, nezpracováno, Informace o čs.-rakouských vztazích.

to a majority vote. The ÖVP was pushed by industrial representatives to actively speak out for the NPS. The ÖVP then positioned themselves clearly in favour of nuclear energy, under the condition that security questions, which were not yet resolved, would be a priority. However, the protests' initiative was taken over by politicians. Inspired by Sweden, the ÖVP made the nuclear question the main topic for the upcoming parliamentary elections. Since it became challenging to find a majority in the parliament *"the SPÖ was left with the only option of a referendum in order not to have to take sole responsibility for a project from the grand coalition through a government majority"*.[135] Socialist Kreisky connected his political career with this already built nuclear power station in Zwentendorf and strongly persuaded that only the opening of the Zwentendorf NPS might secure further development and prosperity so as not to have thrown invested money away (13 billion ATS).[136] The ÖVP, sitting in the opposition, took the other side. The against-campaign was built upon nine already functional waterpower stations on the Danube River.[137] Whereas the left-oriented activists worked on this referendum, the right-oriented formed the initiative "Working group NO to Zwentendorf" (*"Arbeitsgemeinschaft NEIN zu Zwentendorf"*).[138] Neither the SPÖ nor the ÖVP declared recommendations for their voters (upon conscience), as there were different positions among voters of each party e.g., senior and junior SPÖ. Both the SPÖ and the ÖVP party chairmen voted in favour. The Zwentendorf referendum was therefore not a topic of party affiliation.[139] Finishing works on Zwentendorf and fuel transportation were accompanied by around 300 protesters.[140] The government was afraid of conflict escalation, and media, especially the biggest newspaper *Kronen-Zeitung* supported protesters.[141]

The very first referendum in Austrian history on opening the first Austrian nuclear power station in Zwentendorf was quick and surprising. The voter turnout on 5th November 1978 reached 64.1 %, 3,183,486 out of 5,083,779 eligible voters, of which 1,576,709 Austrians said "Yes", whereas 1,606,777 voted "No". Five out of nine Austrian Federal States situated in the Southeast voted in favour –

[135] Bayer, "Die Ablehnung der Kernenergie," 172-175.
[136] Rauchensteiner, *Unter Beobachtung*, 409. ; Veber, *Dějiny Rakouska*, 580.
[137] Veber, *Dějiny Rakouska*, 600.
[138] Bayer, "Die Ablehnung der Kernenergie," 172-174.
[139] Ibid., 176.
[140] Veber, *Dějiny Rakouska*, 599.
[141] Šmidrkal, ed., *Sousedé*, 272-273.

Burgenland 59,8 %, Vienna 55,4 %, Carinthia 54,1 %, Styria 52,8 %, and Lower Austria 50,9 %, whereas Western Lands voted against – Vorarlberg 84,4 %, Tyrol 65,8 %, Salzburg 56,7 %, and Upper Austria 52,8 %.[142] Paradoxically the Western Austrians, who have been buying Swiss nuclear energy, had a decisive word in this referendum. Since then, it has become a part of the Austrian identity to protect the environment and convince neighbouring states to close their Soviet-type NPSs.[143] Moreover, industrial regions were generally in favour, while agricultural regions were more against. Furthermore, looking at the relative closeness to local or foreign NPSs, the general rule applied, that the further away people lived, the more they voted in favour, the closer they lived, the more they voted against. Representatives of protest movements together with the ÖVP managed to mobilise their voters more than the SPÖ.[144]

Immediately after the referendum, on 15th December 1978, the National Council unanimously passed the Law on the Prohibition of the Use of Nuclear Fission for Energy Generation in Austria, so-called *"Atomsperrgesetz"*.[145] Although Kreisky connected his political career with this referendum, he did not resign. He accepted the democratic defeat and acted against his belief to ensure the quick and smooth passing of the law. That probably made an impact on voters, because the SPÖ won the elections in 1979.[146] After it reached its objectives, the antinuclear movement broke down into new political parties – future Greens.[147] Protesters managed to bring this issue to political level where it was perfectly "misused" politically (challenge of a one-party government), what in conclusion led to re-election of the old-new Chancellor.[148]

3 ENDURING ATOMIC ATTRACTIVENESS

Starting in the 1950s, but reaching the peak in the early 1970s, oil (55 %) dominated the energy mix in many countries, followed by coal, gas, and water, marginally nucleus (less than 5 %).[149] Processing oil seemed to be more

[142] Bayer, "Die Ablehnung der Kernenergie," 176, 185.
[143] Veber, *Dějiny Rakouska*, 600.
[144] Bayer, "Die Ablehnung der Kernenergie," 176.
[145] Rauchensteiner, *Unter Beobachtung*, 547.
[146] Ibid., 410.
[147] Šmidrkal, ed., *Sousedé*, 272-273.
[148] Bayer, "Die Ablehnung der Kernenergie," 183.
[149] Engelbert Broda, ed., *Kernenergie in Österreich: pro und contra* (Wien: Springer, 1976), 19, 21.

convenient than investing in both technique and mining workers across Europe. This trend was achieved due to a relatively low price and the liquid state, which made oil easy to handle. However, its sources were limited, and a strong dependency on import from the Middle East did not promise long-lasting stability.

Reactions in many western countries to a drastic price increase (from USD 11.65 for a barrel in 1973 compared to USD 34 in 1979)[150] involved a rapid exploitation of domestic gas and oil resources, e.g., in the North Sea together with an increase of nuclear energy production. Such a threat to energy security made it possible for other resources to enter the world energy market.[151] The Soviet Union followed the same approach with its satellite states. Most socialist countries reduced energy intensity and overcame the situation with beneficial Soviet oil supplies.[152] KSČ aimed at maximising the usage of domestic resources and thus reduce import dependency. Furthermore, it conducted geological research for oil and gas and their potential exploitation within the country. Power stations working on oil were closed, and energy production was shifted toward burning high sulphur brown coal. By 1981, the ČSSR intended to complete the Prunéřov II thermal power plant and so complete the thermal power plants' building.[153] Communists also rationed energy consumption, and in conclusion, they believed that any future energy crises could be avoided by generating heat and electricity from nuclear energy.[154]

Austria managed to withstand both oil shocks pretty well because of more than ⅔ of electricity being generated from its hydro power plants and a solid domestic raw material production (⅕ crude oil demand and ½ gas demand) balanced with import from the USSR.[155] Nevertheless, being aware of an enormous dependency on oil, Austria began reconsidering its energy mix and conducted an energy research concept in 1974. Like in socialist countries, there was a common belief that an ongoing increase in energy consumption is necessary to improve the population's welfare; stating that flourishing businesses result in working

[150] Zweifel, Praktiknjo and Erdmann, *Energy Economics*, 178. ; Kubín, *Rozvoj energetiky*, 117.
[151] Engelbert Broda, ed., *Kernenergie in Österreich: pro und contra* (Wien: Springer, 1976), 19, 21.
[152] Kubín, *Rozvoj energetiky*, 287.
[153] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.8/1981.
[154] Kubín, *Rozvoj energetiky*, 117, 286.
[155] Rauchensteiner, *Unter Beobachtung*, 389.

places.[156] Austria invested a lot of money in research – 10 mil ATS in 1979 and 70 mil in 1984/1985. It focused on higher utilization of its water potential, heat generation from biomass (sawdust, tree bark, straw), acquiring biogas from animal excrements, and gaining fuel from corn and sugar beet. However, these subsidies for alternative energy sources were too costly. Besides, Austria wanted to focus on renewable sources – water, sun, wind, and hot streams. Talking about wind energy in Austria a Czechoslovak diplomat reported *"that it had little share but in no case a significant share in the provision of electricity supply"*.[157] Neither hot streams nor wind or geothermal energy could exceed regional importance in small towns supplied in Lower Austria and Styria. Besides, Austria focused on broadening international energy import treaties.[158]

However, diversification interconnected higher expenditures and confrontation with security challenges. In total five general alternatives to oil were on the table. Further relying on coal correlated with the oil shortage scenario. Also, generating geothermal energy from kilometre deep boreholes limited the capacity as rocks do not conduct heat well.[159] In the early testing process, solar energy contained many challenges like different amounts of sunlight due to different seasons, storage capacity, complex construction, and land demand. To generate the same output that one nuclear reactor with an output of 1,000 MWe would produce, photovoltaics would require an area of 80 km^2.[160] Also, construction material demands differed tremendously – photovoltaics would need 12x more steel than a single coal power plant and 60x more concrete than one nuclear power plant.[161] This meant high budget claims were going to be inevitable as well as lower revenues as solar energy would be five times more expensive than a nuclear energy (investments up to USD 10 for 1Wh).[162] Another option for coastal states, tidal energy, was prevented by global movements, seeking to protect ocean systems from harmful intervention.[163] For obvious reasons, this option is not available for inland states. The last option, technical innovation in nuclear

[156] Broda, ed., *Kernenergie*, 7-11.
[157] Archiv MZV, DTO 1945-89, Rakousko 17, Vědecko-technické informace, 3909/56.
[158] Ibid.
[159] Kubín, *Rozvoj energetiky*, 293.
[160] Broda, ed., *Kernenergie*, 22, 25.
[161] Kubín, *Rozvoj energetiky*, 293.
[162] Ibid., 293.
[163] Ibid., 292-293.

energy, seemed to be a suitable solution to solve problems of future energy shortages. The Reactor Safety Study by Norman C. Rasmussen claimed that the *"probability of any crash is minimal and lies behind the experience of numerous generations"*. NPSs cannot detonate like nuclear bombs in Hiroshima and Nagasaki, but burned atomic fuel represents a millennium problem. Nevertheless, its storage in empty salt domes would be convenient, while 1,000 years mean nothing for geology. Any nuclear power station should be built on terrain, which is mapped in high detail, be modern and equipped with appropriate technology to limit damages like river warming or regional changes to the climate. All extra security aspects were associated with further investment and the willingness to pay more for the energy.[164]

Although the opening of the Zwentendorf nuclear power plant was prohibited by law, it found itself in a stand-by-modus.[165] Therefore, some Austrians feared a potential political intention to commission or to convert this nuclear facility at some point later in time. Concretely, there was a fear that the federal government could secretly keep the nuclear power plant on stand-by and put it into operation in an alleged emergency. State Secretary Adolf Nussbaumer commented on these concerns that the fuel rods of the NPS Zwentendorf had not yet been taken out of the country because of ongoing negotiations to sell them for the highest price. Second, any removal of the fuel rods also required an American approval. Last but not least, there was the unsolved question of the storage of burned nuclear waste, which was added as a pre-referendum precondition for Zwentendorf's opening so as to further relieve people's concerns.[166]

Eastward of Vienna nuclear energy was placed higher and higher in the energy mixes. The Telegraph Agency of the Soviet Union (TASS) reported nuclear energy as an important topic for cooperation among socialist countries, including far away Cuba, in both NPSs construction and further research.[167] Whereas Bulgaria, the ČSSR, GDR, and the USSR already opened their nuclear power plants, Hungary, Poland, and Romania continued in their efforts. COMECON nuclear energy production should have reached 10 % in 1980 and 25 % in

[164] Broda, ed., *Kernenergie*, 26, 28-29, 31, 34.
[165] Forstner, "Kernspaltung," 94.
[166] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.5/1979.
[167] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.2/1977.

the next decade.[168] This included a further extension of the network of NPSs; 16 in the USSR, six in the GDR, two in Hungary, and four in each Bulgaria and Czechoslovakia by 1980.[169]

The ČSSR saw itself forced to mainly use nuclear energy for various reasons. Conditions for black and brown coal extraction were worsening. Forecasts showed that brown coal would be completely exploited by 2030, oil was unavailable, and the global price increase for fuels and energy was still in the air. Moreover, it disposed of smaller amounts of conventional energy sources, which could be considered as an alternative. The only river with a strong stream was the Danube, but the ČSSR only controlled one riverbank, meaning they would have to cooperate with either Austria or Hungary.[170] Later in the 1980s, emissions and bad environmental conditions were of concern.[171] Czechoslovakia continued in its course to promote heavy industry and therefore fell behind the West, whereas Austria went through deindustrialisation and changes to the amount of privatisation in the 1970s. Czechoslovak products could not compete with western ones anymore, so the only way to get their hands on desirable foreign currencies, was to export raw materials. North Bohemia was highly affected by this strategy, as mining and brown coal-burning, caused bad air and acid rain.[172] Similar practices were standard to the other two neighbouring socialist states, East Germany and Poland. This resulted in an enormous burden on the landscape and the creation of a so-called “black triangle”. People suffered as a result of dust and smog in big cities due to brown-coal burning. According to statistics, some places in the ČSSR burned over 1,000 tonnes within one km^2 per year.[173] The only way to meet the growing energy demand, which increased more than tenfold in the last 30 years from 7,500 to 79,000 million kilowatt-hours, was nuclear energy.[174]

The Czechoslovak nuclear power plants expansion plan was confirmed within the framework of COMECON.[175] To generate 10,000 MWe, what was equal to 40 % of complete Czechoslovak energy production in 1982,[176] the

[168] Ibid.
[169] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.59/1978.
[170] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.42/1978.
[171] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.71/1982.
[172] Schmoller, “Die Nuklearkatastrophe,“ 5.
[173] ÖSTA/ADR, BMAA, Pol, Zl. ATOM 122.1/1972. ; Šmidrkal, ed., *Sousedé*, 274-275, 280.
[174] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.8/1980.
[175] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.1/1982.
[176] Ibid.

nuclear power plants programme foresaw the opening of two blocks in Jaslovské Bohunice and four blocks in Dukovany by 1985.[177] Also, some new NPSs were planned. Austrians opposed about their approximate location, which was updated year by year, i.e. Levica (future Mochovce NPS) and Malovice (future Temelín NPS) was approved in 1980.[178] Regarding the future Temelín NPS, which after Chernobyl became a hot issue, it is worth highlighting that in May 1981, representatives of a company *Österreichische Elektrizitätswirtschafts-AG* led talks with Czechoslovak authorities involved in the planning and construction of that NPS. The aim of these discussions was to conclude as quickly as possible a long-term supply contract for the basic electricity load from, at that time in Austrian reports documented Malovice nuclear power plant.[179] The Czechoslovak nuclear energy programme counted on having the VVER-440 (440 MWe output) light water reactor (operating in Slovakia since 1978) until 1987. After this, new reactors with a higher output – type VVER-1000 (1,000 MWe output) were to be used as they were more efficient, more reliable and would require less staff.[180] A total number of 12 VVER-440 and around 4-5 VVER-1000 reactors ought to be commissioned by 1990.[181] Gustáv Husák stressed the need for having nuclear energy several times to Austrian partners[182] and Bohuslav Chňoupek, who also talked, guaranteed their security[183]. In 1982, construction works on Mochovce NPS started and due to insufficient financial resources construction was stopped in 1991.[184]

[177] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.8/1981.
[178] Znoj, “Das Atomkraftwerk Temelín,“ 146.
[179] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.15/1981.
[180] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.8/1980.
[181] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.60/1980.
[182] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 433, nezpracováno NA, Záznam ze setkání generálního tajemníka ÚV KSČ a prezidenta ČSSR Gustáva Husáka se spolkovým prezidentem Rakouské republiky Rudolfem Kirchschlägerem.
[183] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.46/1980.
[184] Zbořil, *Československá a česká zahraniční politika*, 401.

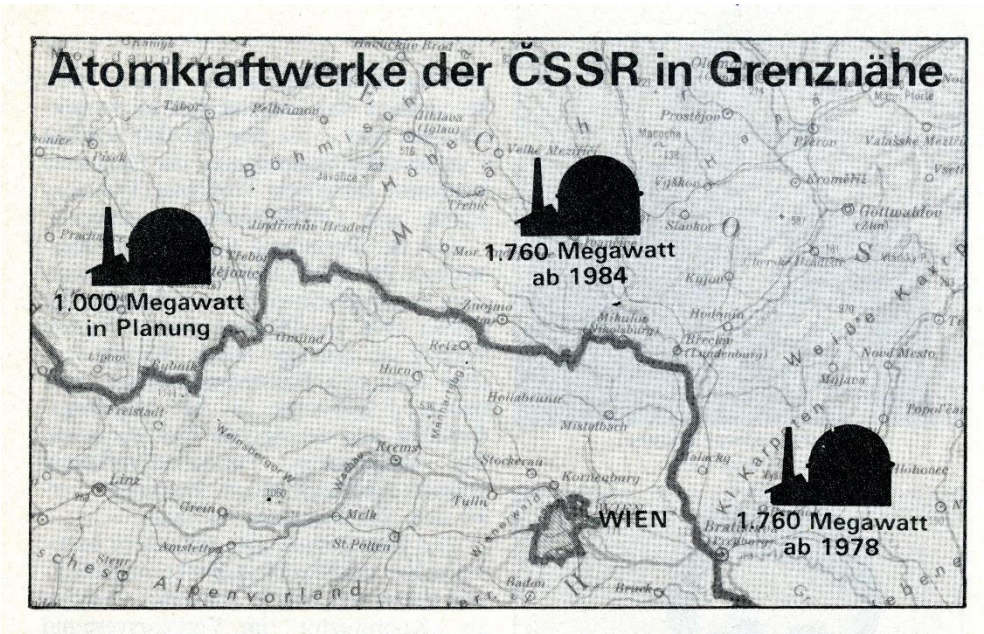

Figure 7: Map with three endangering the ČSSR nuclear power plants.[185]

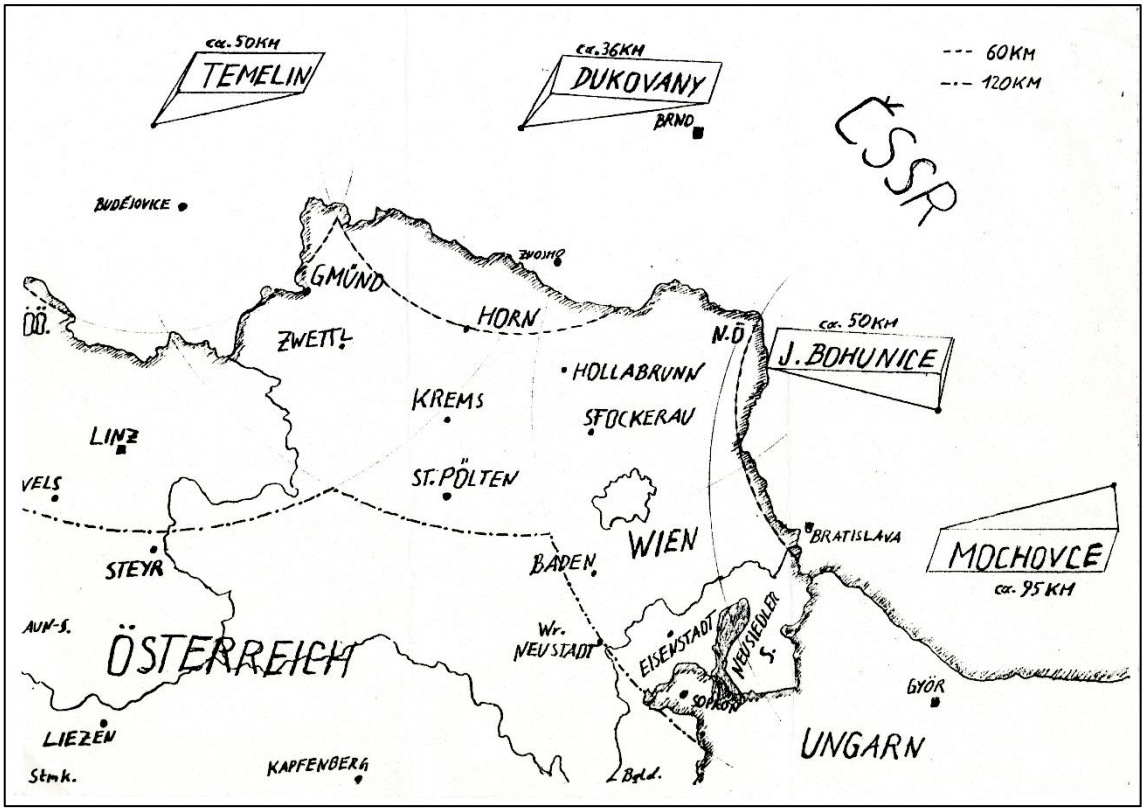

Figure 8: Map with four endangering the ČSSR nuclear power plants.[186]

[185] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.55/1978.
[186] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.14/1987.

3.1 Vienna Insists on Information: Path to the Treaty

In the ČSSR, the situation concerning protest movements was different. They existed, but on different levels: state, underground opposition, and in between. In 1973 ecologic movement *"Brontosaurus"* and in 1979 "Czech Union for Nature Conservation" (*"Český svaz ochránců přírody"*) (ČSOP) were established. They gained influence and sympathy on local level but did not have any impact on central state decision making. Their boom came after the second half of the 1980s.[187]

A number of protests against Czechoslovak power plants emerged before and after the Zwentendorf referendum. On 7th February 1978 around 80 people from IÖAG protested near the Soviet embassy in Vienna as the USSR planned to construct four Voronezh reactors in three places in the ČSSR. In their view, this reactor type was particularly susceptible to interference and shows signs of active radiation. Their protest turned the attention to nuclear politics of Soviet and the ČSSR governments, the Austrian government, which did not oppose border NPSs and the Austrian mass media, which kept silent during the protest.[188] The Communist League of Austria also protested against Czechoslovak nuclear power plants.[189] The solution in the domestic NPS issue led activists to focus more on neighbouring states with nuclear facilities and state representatives had to act. The newspaper *Die Presse* informed about Foreign Minister Willibald Pahr´s draft of an international convention that should regulate the construction of nuclear power plants in the border area. In more detail, there should be a construction ban for nuclear plants within 5 to 10 km of the state border, a say in safety regulations for plants that are 30 to 40 km away from the border and a right to information regarding bordering states´ nuclear power plants.[190]

The political climate between Prague and Vienna was of great importance. And it changed regularly. The ČSSR found itself isolated from many capitalist states, Austria included, due to Charta 77. Neither honouring dissident authors with the Austrian State Prize for European Literature Václav Havel (1968), Pavel

[187] Šmidrkal, ed., *Sousedé*, 274-275, 280.
[188] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.44/1978. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.45/1978.
[189] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.22/1978.
[190] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.4/1980.

Kohout (1977), and Milan Kundera (1987),[191] nor the anti-ČSSR campaign of Czechoslovak emigrants in Austria reflected positively on the affairs.[192] Nevertheless, Austria viewed the ČSSR´s "foreign policy" as a copy of the Soviet orders transmitted by the Soviet Embassy in Prague. The foreign policy outlook provides conclusions from the XVI. congress of KSČ from 1981. It confirmed that Czechoslovak foreign policy focuses on a preservation and deepening of positive results reached via pursuing a peaceful coexistence among states with different state systems. Especially, Austria occupied a prior position in Czechoslovak foreign policy towards capitalist states, being its second most important trade partner.[193] 57 international treaties were in force and the Štrougal spoke about a *"really good neighbourly relationship"*.[194] That statement mirrored the intensity of official and working visits of representatives on the level of heads of governments, foreign ministers, parliamentary delegations, delegations of labour unions, and society organisations. Chancellor Kreisky informed Prime Minister Štrougal in Židlochovice in January 1979 about the entombment of Zwentendorf NPS and the intention to sell fuel cells abroad. He informed about his ability to push in the National Council that an additional referendum might change the abolishment of future construction of NPSs in Austria.[195] The Austrian Minister for Industry, Trade and Craft Josef Staribacher informed, during talks with Minister for Foreign Trade Andrej Barčák in Vienna in March 1979, that Austria reckoned with reshaping the Zwentendorf NPS to some other classical fuel sources, but did not exclude the possibility of another referendum concerning the opening with its original purpose.[196] Also, President Rudolf Kirchschläger on his the ČSSR visit in March 1979 engaged in the nuclear talks, proposing warning and security systems that would prevent potential damages and reduced the emotional protest in his

[191] ÖSTA/ADR, BMAA, Pol, Zl. 35.02.02.1/1978.
[192] NA, f. KSČ-ÚV (1945-1989), 02/1 (1981-1986) aj. 103, sv. 100, Důvodová zpráva.
[193] Ibid.
[194] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.22/1981.
[195] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 434, nezpracováno, Zpráva o jednání předsedy vlády ČSSR dr. Lubomíra Štrougala se spolkovým kancléřem Rakouské republiky p. Bruno Kreiskym ve dnech 25. a 26. ledna 1979 v Židlochovicích.
[196] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 435, nezpracováno, Informace o jednání ministra zahraničního obchodu ČSSR s. A. Barčáka s rakouským ministrem průmyslu, živností a obchodu J. Staribacherem ve dnech 5. – 6. března 1979 ve Vídni.

homeland.[197] The ČSSR usually responded that its NPSs were safe and it also referred to IAEA, where Austria could ask for expertise.[198]

Since January 1978, Austrian and Czechoslovak experts engaged in talks and information exchange regarding nuclear energy and nuclear power plants. To this day, there were no requests to close foreign NPSs from Austrians authorities yet. From the very beginning, experts had to debate all technical points including meteorological and hydrological situations, measurement, security control radius, etc.[199] On 3rd July 1980, they could proclaim in Brno that their work was finished and recommended establishing negotiations on a diplomatic level to formalise results.[200] While the Austrians were ready to start the diplomatic negotiation rounds, the Czechoslovaks hesitated, whereas they understood the Austrian concerns. Therefore, the Czechoslovaks tried to delay the end of these talks by preparing enormous amounts of long presentations so as to take up the entire discussion time.[201] BMAA urged the ČSSR in various occasions to avoid early expected parliamentary interpellation.[202] Willibald Pahr wrote in his letter in July 1981 that it is:

> *"Incomprehensible that Czechoslovakia refuses to negotiate the safety of nuclear power plants, while Austria continues to emphasize that it does not want to interfere in the internal affairs of the ČSSR in any way and that it only seeks to address possible consequences for Austria."*[203]

[197] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 433, nezpracováno, Záznam ze setkání generálního tajemníka ÚV KSČ a prezidenta ČSSR Gustáva Husáka se spolkovým prezidentem Rakouské republiky Rudolfem Kirchschlägerem.
[198] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 436, nezpracováno, Záznam o rozhovoru mezi p. Weinbergerem a s. Jablonským ze dne 1. 7. 1981.
[199] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.31/1979. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.58/1980.
[200] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.57/1980.
[201] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.61/1980.
[202] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 436, nezpracováno, Záznam o rozhovoru mezi p. Weinbergerem, s. nám. Jabloneckým a s. Pilichem ze dne 20. 8. 1981.
[203] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 435, nezpracováno, Dopis ministra zahraničních věcí Rakouské republiky W. Pahra.

Austria would be ready to further deepen the relations if the ČSSR returned to the negotiation table rounds.[204] Austria stressed the wish of having a progress before the official visit of Gustáv Husák in 1982. The aim was to have the treaty signed during this visit.[205]

This, in Austrian view, so-called "stalling tactics" with "preliminary talks", lasted for two years.[206] MZV requested a text of any similar treaty, if such a text existed, in December 1981, and showed a willingness to negotiate on a technical level among experts.[207] In the meanwhile, the ČSSR denied the Austrian treaty proposal. The most problematic point was the question of liability, which the ČSSR refused to negotiate. Austria would agree to sign a treaty that "in no way" mentions the question of liability, if the ČSSR and Austria could come to an otherwise acceptable contract.[208] Furthermore, the ČSSR did not find it necessary to regulate questions, which were regulated by general international law or the IAEA.[209] Willibald Pahr told Bohuslav Chňoupek in Vienna in May 1982 that he welcomed the Czechoslovakian approach in starting negotiations and pointed out that concluding the treaty would positively influence the preparation of the referendum concerning the commissioning of the Zwentendorf NPS.[210] It took two years to finally start the diplomatic discussions. The first diplomatic negotiation took place in Vienna between 8th and 9th July, and then in Prague on 9th and 10th September 1982 to clarify the open points.[211] Because such a treaty was the first of its kind between two states with different social establishments (capitalist-socialist), the Czechoslovaks discussed the results of the negotiations and the proposal with the Soviet Commission for Nuclear Energy.[212]

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[204] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.22/1981.
[205] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 436, nezpracováno, Záznam o rozhovoru ministra zahraničních věcí soudruha B. Chňoupka s rakouským ministrem zahraničních věcí Dr. Pahrem.
[206] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.7/1982.
[207] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 436, nezpracováno, Záznam o rozhovoru mezi p. Weinbergerem, s. nám. Jabloneckým a s. Pilichem ze dne 20. 8. 1981.
[208] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.14/1982.
[209] NA, f. KSČ-ÚV, dílčí fond Kancelář generálního tajemníka ÚV KSČ Gustáva Husáka, karton 436, nezpracováno, Záznam mezi p. Weinbergerem, s. nám. Jabloneckým a s. Kafkou ze dne 22. 12. 1981.
[210] NA, f. KSČ-ÚV (1945-1989), 02/01 (1981-1986) aj. 42, sv. 40, Informace o průběhu a výsledcích oficiální návštěvy ministra zahraničních věcí s. B. Chňoupka v Rakouské republice.
[211] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.55/1982.
[212] NA, f. KSČ-ÚV (1945-1989), 02/1 (1981-1986) aj. 103, sv. 100, Důvodová zpráva.

The “Agreement between the Republic of Austria and the Czechoslovak Socialist Republic on the settlement of questions of common interest in connection with nuclear facilities” was signed on 18th November 1982, but under a different name and a different wording in comparison to the Austrian proposal from 1980.[213] The proposal from 1980 was called Treaty “on the exchange of information in connection with possible cross-border radioactive emissions from nuclear installations”.[214] The treaty consisted of a preamble and 12 articles. In the approved text, unlike what was originally proposed by Austria, one did not find a reference to the Principle 21 of the Declaration of the United Nations Conference on the Human Environment that:

> *“States … have the sovereign right to make their own to use natural resources in accordance with their own policy of environmental protection and to ensure that the activities under their jurisdiction or control do not cause damage to the environment in other states or in areas outside their national jurisdiction”*.[215]

There was only a marginal reference to the provisions of the Final Act of the Conference on Security and Cooperation in Europe (CSCE) on environmental cooperation, which stated that:

> *“Each participating State should, in accordance with the principles of international law, ensure, in a spirit of cooperation, that activities within its territory do not cause environmental degradation in any other state or in areas outside national jurisdiction.”*[216]

In the final text one could read in the preamble the slight link to the Final Act of the CSCE, cooperation in the field of environment and the importance of information exchange from near border NPSs. These were defined as:

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[213] NA, f. KSČ-ÚV (1945-1989), 02/1 (1981-1986) aj. 103, sv. 100, Dohoda mezi Československou socialistickou republikou a Rakouskou republikou o úpravě otázek společného zájmu souvisejících s jadernými zařízeními.
[214] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.75/1980.
[215] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.20/1980.
[216] Ibid.

> *"A nuclear installation which, in the event of an unforeseen event, may endanger the population of the other Contracting Party" … "A nuclear installation… shall be determined on the basis of a proposal from the Contracting Party in whose sovereign territory the nuclear installation is to be established…".*[217]

The ČSSR originally proposed to list all nuclear power plants, but Austria favoured an appendix to make it possible to add further NPSs in the future. Moreover, Austria persisted on listing Czechoslovakian NPSs (Jaslovské Bohunice and Dukovany) only, excluding Zwentendorf NPS, which in its view was not and would not be operable in near future. The ČSSR did not want to include Jaslovské Bohunice which was, however, the condition for Austria listing Zwentendorf. Austria expected that the treaty would also include future NPSs and not only the existing ones.[218] The final text only included Dukovany provided Austria listed the Zwentendorf NPS. For further list extensions the governments both had to agree. Both countries were obliged to inform about nuclear programmes and to publish judicial regulations on nuclear and radiation security. At least once every two years, expert talks were intended to take place. Both countries agreed to inform the other Contracting Party and hold expert talks at least six months before commissioning a nuclear apparatus near joint borders. And Austria carefully controlled the treaty implementation and urged the ČSSR when violating.[219] Furthermore, the treaty imposed regular radioactive measurements between the NPS and mutual borders during construction as well as measurements of the air quality, including aerosol, drinking water, surface water, soil, and field crops during its operation. The treaty itself did not contain any information on the liability question as a compromise for not listing a termination of the treaty, which was until then governed by respective law, so the ČSSR or Austria could terminate at anytime.[220]

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[217] NA, f. KSČ-ÚV (1945-1989), 02/1 (1981-1986) aj. 103, sv. 100, Dohoda mezi Československou socialistickou republikou a Rakouskou republikou o úpravě otázek společného zájmu souvisejících s jadernými zařízeními.
[218] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.15/1982.
[219] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.1/1985. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.20/1985.
[220] NA, f. KSČ-ÚV (1945-1989), 02/1 (1981-1986) aj. 103, sv. 100, Důvodová zpráva.

According to ČSSR diplomats, this treaty was extremely important for Austria for national reasons. The importance of having such a document confirmed that it was adopted through resistance of opposition parties. The opposition claimed that such a treaty did not back Austrian interests, as it did not cover the liability question in case of a crash in any NPS close to the border.[221] Also, Austrian organisations opposing nuclear power plants, once again criticised the Austrian government: instead of insisting that locations of the nuclear power plants not be in the immediate vicinity of the border in the long-term, they cooperated in a joint "disaster plan".[222]

It was the only treaty of that kind. But the ratification took almost an additional two years, which made Austria nervous.[223] The treaty entered into power on 1st July 1984 and so the ČSSR became the very first neighbouring state with an information and consultation system mechanism. It was marked as a "pioneering achievement" (*"Pionierleistung"*). This meant that there was room for additional further bilateral development.[224] Austria also ran negotiations with the remaining states, that produce nuclear power, Hungary, Yugoslavia, Switzerland, West Germany, and Italy.[225] Austrian diplomacy used it as a pressure instrument against Hungary and West Germany.[226] Similar treaties were signed with Hungary on 1st November 1987, East Germany on 3rd May 1988, and the USSR on 12th September 1988, whereas negotiations with West Germany continued.[227]

3.2 The Second Try for Nuclear Energy in Austria

If Austrian politicians had thought that the orientation towards renewable energy sources were to be without any problems, they would have been wrong. The environmental drive after Zwentendorf was still too strong, which charged demonstrators to confidently challenge other projects. Including those for renewable energy resources. The waterpower Hainburg project was one of these, even

[221] Ibid.
[222] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.28/1982.
[223] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.10/1983. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.21/1983.
[224] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.12/1984.
[225] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.76/1986.
[226] NA, f. KSČ-ÚV (1945-1989), 02/1 (1986-1989), aj. 137, sv. 100, Informácia o priebehu a výsledkoch oficiálnej návštevy spolkového vicekancelára a ministra zahraničných vecí Rakúskej republiky A. Mocka v ČSSR.
[227] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.18/1989.

though it was planned since 1952 and construction began in 1983.[228] The problem lay with the unique nature of Hainburger Au flood plain, which demonstrators occupied to disable the construction works. After this act, the project was stopped in 1984.[229] That was the second time that Austrians managed to achieve a serious intervention in their governments plans as far as heat and energy production is concerned. Thus, Vienna had to secure energy from abroad such as from the joint Czechoslovakian-Hungarian Gabčíkovo-Nagymaros Waterworks. The Austrian energy company *Österreichische Donaukraftwerke AG* realised that the backwater went over the joint Austrian-Czechoslovakian border. The company would therefore have to take a 15% stake in the electricity generation in Gabčíkovo-Nagymaros Dams.[230]

In 1983, the period of one-party governments ended and the SPÖ had to build a coalition. However, that did not discourage Kreisky from a second try to commission the Zwentendorf NPS. And, he had favourable conditions for this, as the view on nuclear energy improved. It was clear that if anyone were to want to open the nuclear facility in Zwentendorf, one could do so only based upon permission resulting from a new referendum. The rival ÖVP, which in 1966 favoured nuclear energy in Austria and in light of upcoming parliamentary elections politicised this issue before the Zwentendorf referendum, was able for a compromise. The ÖVP was well aware of energy scarcity and was now claiming that Austria should not divert from international trends.[231] Besides, Austrian Unions already requested Zwentendorf´s opening in 1980. Members of the National Council, from both dominant parties the SPÖ and the ÖVP, stressed the fact that nuclear power plants have already been operating in many other countries. The SPÖ admitted that although the problems of NPSs could have been solved abroad, Austria was still against it.[232] Disregarding accidents, the SPÖ and the ÖVP were convinced that the security of NPSs could also be achieved in Austria. They agreed a new referendum was necessary, but simultaneously regretted the effect

[228] Rauchensteiner, *Unter Beobachtung*, 421.
[229] Šmidrkal, ed., *Sousedé*, 272-273.
[230] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.66/1980.
[231] Bayer, “Die Ablehnung der Kernenergie,“ 182.
[232] Ibid., 182.

of antinuclear movements. However, they were convinced that together they could mobilise more people.[233]

It seemed that only the FPÖ remained constant in its antinuclear position and loyal to the 1978 referendum outcome. However, this stance posed a problem with regard to accepting SPÖ´s invitation to participate in the new government. But as this was, the FPÖ´s first time being part of the federal government of Austria, they accepted and cancelled club obligation regarding its position on nuclear energy. It also resigned from the previous consistent so-called "controller position" in the National Council so as not to be in conflict with the governmental duties. The FPÖ suddenly resigned on its so-called "morally stable" position towards bordering foreign nuclear facilities, and similarly to the ÖVP, discarded all the pressure it put on the Austrian government, also in the efforts to pressure the Austrian government to conclude a treaty with the ČSSR and Yugoslavia on information exchange about NPSs. This is how nuclear energy became part of the SPÖ-FPÖ coalition treaty.[234] Meanwhile, in 1984, the Green Party (*"GAL Grüne-alternative Parteien"*) was founded.[235]

Between 1984 and 1985 the SPÖ tried to open the issue of commissioning the Zwentendorf NPS in a stand-by-modus in parliament by holding a new referendum. Such a referendum would require a ⅔ majority in the National Council. All three parties the SPÖ, the ÖVP and the FPÖ agreed upon a whole-political consensus in early 1984.[236] The outline for the potential referendum question was: *"Are you for peaceful use of nuclear energy, yes or no?"*. However, after long discussions, that had been going on for years, the ÖVP changed its position in early 1985 and said that the SPÖ-FPÖ government should come up with a governmental proposal as a precondition for ÖVP agreement. On 21st March 1985 vote in parliament regarding the possibility of a new referendum took place. No common agreement between the ÖVP and the SPÖ was reached and therefore the ÖVP did not cancel club obligation on this particular voting, meaning the party voted against a new referendum. Also, a majority of FPÖ parliamentarians positioned themselves against a new referendum. Thus, the outcome was a victory 91:90, but without the required ⅔ majority necessary to hold a new

[233] Ibid., 184.
[234] Ibid., 181-182.
[235] Veber, *Dějiny Rakouska*, 588.
[236] Bayer, "Die Ablehnung der Kernenergie," 177, 179-180, 184.

referendum.[237] After this vote, the domestic issue, the opening of Zwentendorf NPS was considered as finished, as a project that was denied twice. Further confirmation, that Zwentendorf was no longer an option came just after the Chernobyl incident in 1986, which caused Chancellor Sinowatz (SPÖ), his vice-chancellor, candidates running for presidency and the Viennese mayor to declare the issue around the Zwentendorf NPS as finished. After this, all parties took a stand against nuclear energy. Before this, it was not clear enough for Austrian voters.

Mr Bayer concludes that as the antinuclear movement disappeared and no longer had an impact on politics, the defeat of nuclear energy in Austria was due to a top-down decision in the end. Interesting transcripts on debates from the National Council between 1978-1986 can be found in his article listed among other sources below. This is probably the most interesting chapter which should be brought to the attention of general Austrian citizens.

4 WITCH-HUNT AND ATOMIC MONSTER

4.1 Chernobyl Nuclear Power Plant Crash

On 26th April 1986, in the Ukrainian Soviet Socialist Republic near the city of Pripyat, the nuclear reactor number 4 of the Chernobyl nuclear power plant was seriously damaged due to a failed safety test. As a consequence, five tonnes of nuclear fallout leaked into the atmosphere, where the wind propelled a radioactive cloud across Europe.[238] After two days, when the Swedes detected high radioactivity, the USSR acknowledged the nuclear crash in a brief communiqué. The International Nuclear and Radiological Event Scale evaluated the crash with its highest warning, level 7 out of 7.[239] Rainy weather combined with nuclear fallout negatively affected parts of Czechoslovakia and Austria, especially agricultural parcels.

Although both countries had similar information as a result of the communiqué, they posed opposite reactions. Austria was the first state in Europe which adopted restrictive measures on 30th April.[240] It was recommended, that 10-20 cm of surface soil should be eliminated, canned milk should be consumed instead of

[237] Ibid., 180.
[238] Schmoller, “Die Nuklearkatastrophe,“ 1.
[239] Zbořil, *Československá a česká zahraniční politika*, 302, 401.
[240] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 5378/86.

fresh milk, people should eat frozen products and destroy irradiated fruit and vegetables. Vegetable imports and cattle pastures were prohibited, sand in sandboxes was replaced, and Austrian employees were repatriated from the Ukraine.[241] International railway travel was stopped; Czechoslovaks and Hungarians entering Austria by car were tested on radioactivity.[242] A crash as severe as the one that happened in Chernobyl, making visible the consequences this can ensue, left those politicians in the National Council still open to the idea of unsealing the prohibition of generating nuclear energy without any arguments. Chancellor Sinowatz declared that his government decided to drop from Zwentendorf NPS without any further referendum, thus satisfying coalition Vice-Chancellor Steger´s (FPÖ) request to liquidate the Zwentendorf NPS by the end of 1986.

The Czechoslovak Embassy in Austria reported back to Prague of the spreading of hysteric anti-Soviet and anti-communist tendencies and the people´s fear toward Czechoslovak nuclear power plants, which were considered dangerous as they “did not comply” with western safety standards.[243] The Austrian media tended to pick and choose what they wanted to report. They rarely mentioned the existing “pioneering” treaty and did not quote any Czechoslovak representatives confirming the NPSs' security. Instead, nuances were carefully placed to raise speculations, says the report of the Embassy to Prague. The ČSSR´s Embassy, therefore, sent a letter to Austrian television requesting objective reporting. Moreover, Czechoslovak diplomats wrote that the *“crusade against the use of nuclear energy is similar to a 'witch-hunt'”*.[244] They stated that the information from Austrian media was “exaggerated” and informed Prague that *“Austria has been hit by a wave of hysteria against the peaceful use of nuclear energy”*.[245] It would have been interesting to compare this with comments from Austrian diplomats referring to the early reluctant Czechoslovak approach to dealing with the consequences of the crash in Spring 1986. By July, this hysteria in Austria began to subside, while a new stance developed, criticising the irresponsible Austrian approach, which included inadequate measures and resulted

[241] Schmoller, “Die Nuklearkatastrophe,“ 2-3, 15.
[242] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 4890/86.
[243] Ibid.
[244] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 5378/86.
[245] Ibid. ; Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 6454/86.

in damages created by fear and panic.[246] Foreign Minister Leopold Gratz (SPÖ) acknowledged that the hysteria portrayed in the Western press was "exaggerated", but in his view, this was a result of too little information.[247] Also, the Minister of Health and Environmental Protection Franz Kreuzer (SPÖ) confessed, that at the time the restrictive measures were implemented, the amount of radioactivity in the air and water was significantly lower than the amount that could endanger organisms´.

Contrary to neighbouring socialist countries, Czechoslovaks were told by their government that everything was under control; there was no radioactivity, and people did not face any danger, as was outlined by the Soviets. Surprisingly, the communist press, with around ten days delay, reported about a reduction in the "non-existing" radioactivity. Various preventive regulations entered into force on 3rd May e.g., for feeding dairy cows, sprinkling streets, and picking mushrooms. Venison consumption was regulated, medicine production related to beef glands was stopped, and people were warned about the danger of contaminated iodine in food.[248] Thus, the safety of the population in the Eastern Bloc was sidelined to serve higher political goals. While athletes from capitalist states rejected, cyclists from socialist states, including Czechoslovakia, were forced to participate in an annual bicycle Peace Race following the route Kyiv-Warsaw-Berlin-Prague despite high radiation.[249]

In the aftermath of the Chernobyl disaster, Foreign Minister Bohuslav Chňoupek in June,[250] Minister of Fuel and Power Vlastimil Ehrenberger in August,[251] and the ČSSR Parliament President Alois Indra in September 1986,[252] provided Austrian colleagues with the Czechoslovak vision to further rely on nuclear power, stating well-known reasons. Minister Chňoupek reasserted that nuclear energy was *"the energy of future"*.[253] And Minister Ehrenberger´s meeting with Vice-Chancellor Norbert Steger demonstrated that despite Austrian requests

[246] Ibid.
[247] NA, f. KSČ-ÚV (1945-1989), ČR, č. 648.
[248] Zbořil, *Československá a česká zahraniční politika*, 302.
[249] Schmoller, "Die Nuklearkatastrophe," 3-4, 8-9.
[250] NA, f. KSČ-ÚV (1945-1989), ČR, č. 648.
[251] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 7225/86.
[252] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.73/1986.
[253] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.75/1986.

for the ČSSR to step back from its nuclear programme, mutual relations were not negatively impacted.[254]

The International Atomic Energy Agency reacted to Chernobyl by adopting two conventions in September, namely the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, to which Austria and Czechoslovakia became signatory states.[255] That was visible progress, since states usually concealed information on nuclear crashes.[256] In October 1986, the IAEA Director Hans Blix offered a similar perspective on nuclear energy to that of Czechoslovakia. He said that after a quarter of a century of developing nuclear energy sources, many countries now developed a new sector of irreplaceable energy source. At the time around 15 % of global energy production came from nuclear power plants. A substantial argument for the use of nuclear energy was that the only alternatives would have been oil or coal burning, as the potential for hydropower had almost reached its peak and was close to being exhausted. Mr. Blix also sated, that neither solar nor wind would be able to generate enough energy in the coming decades, concluding that he did not see any practical possibility other nuclear power.[257]

The Chernobyl tragedy was also used for the presidential and parliamentary election campaign in Austria.[258] With 4,82 % the Austrian Greens ("*Grüne Alternative"*) managed to enter into parliament for the first time, where they started developing an antinuclear energy campaign.

Thanks to protective measures and adequate actions, Austria managed to avoid negative consequences. Now the question of financial compensations from the Soviet Union needed to be solved. The BMAA evaluated the claims for damages caused by Chernobyl in December 1986. From the meeting protocol, one reads that:

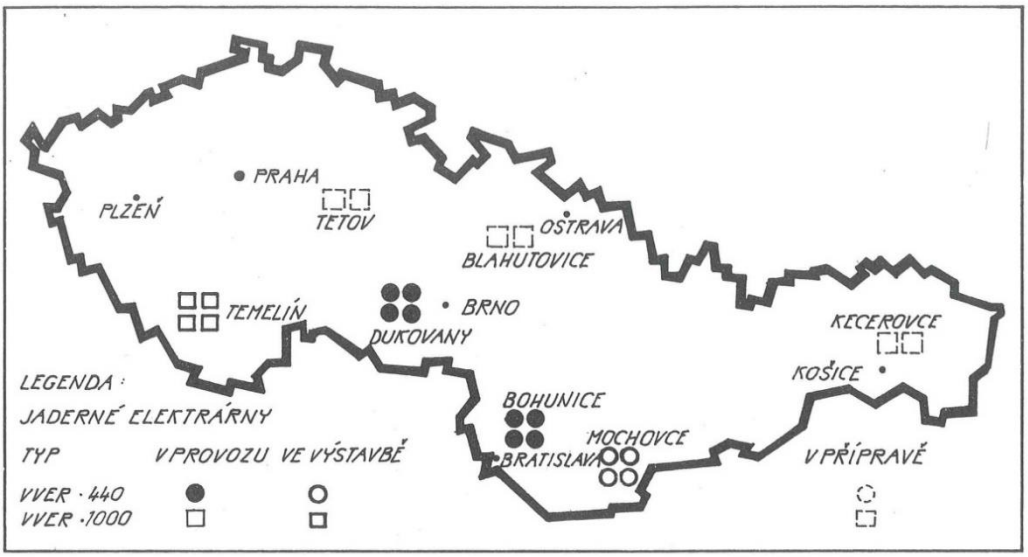
[254] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 7225/86.
[255] NA, f. Úřad předsednictva vlády ČSSR/ČSFR, registratura, rok 1989, karton 36, nezpracováno, Důvodová zpráva.
[256] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 133.860/87-4.
[257] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 147.833/86.
[258] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 4890/86.

> *"The current instruments of international law are an insufficient basis for the assertion of claims for damages and … any assertion of claims for damages should only be made in accordance with the other comparable European states concerned."*[259]

The meeting protocol further illustrates the Soviet position in this regard. The USSR did not see a connection between the reactor crash and the measures taken by some states, as these were their sovereign responsibility and thus formed no basis under international law for the assertion of claims for damages in the field of nuclear damage.[260] Some individuals also tried to accuse the USSR of incurred damages from the Chernobyl. Ms Traude Kofler was one of these individuals. However, in July 1987, she heard an adverse verdict. The court stated that the Soviet Union did not have any property in Austria, and in case the USSR lost the trial, any execution would be unthinkable. The USSR did not react to that trial nor did it accept the written accusation. The USSR was represented by a curator who tried to discourage Ms Kofler from running the trial by rating the dispute subject at 1 billion ATS.[261]

Despite the Chernobyl disaster, the ČSSR managed a unique thing in the field of nuclear power plants construction – it opened two blocks in Dukovany in one year.[262] The construction permission for Temelín NPS was issued in November 1986, and the construction works started the following year.[263] Temelín differed from all other Czechoslovak NPSs with regard to its reactor capacity.[264] The nuclear power plants programme boosted new projects, and the vision in 1989 was to have 24 blocks in seven locations with a total output of 17,280 MWe.

[259] ÖSTA/ADR, BMAA, Pol, Zl. 1005.02.27/1986.
[260] Ibid.
[261] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 127.167/87-4.
[262] Virtual Tour to the Dukovany Nuclear Power Plant on 11th April 2021.
[263] Znoj, "Das Atomkraftwerk Temelín," 146.
[264] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.45/1986.



Jaderné elektrárny v ČSSR

Figure 9: Existing, constructing, and planned nuclear power stations in the ČSSR.[265]

	Název JE, JEOT	Roz-počto-vé náklady (mld Kčs)	Poř. čís.	Typ a výkon reaktoru	turbíny	Termín uvedení do zkuš. provozu
PROVOZOVANÉ	1. V—1 Bohunice	5,0	1	VVER 440	2 × 220	3/79
			2	,,	,,	6/80
	2. V—2 J. Bohunice	10,5	1	,,	,,	10/84
			2	,,	,,	9/85
	3. Dukovany	21,3	1	,,	,,	3/85
			2	,,	,,	3/86
			3	,,	,,	12/86
			4	,,		7/87
VE VÝSTAVBĚ	4. Mochovce	28,3	1	,,	,,	10/89
			2	,,	,,	10/90
			3	,,	,,	6/91
			4	,,	,,	3/92
	5. Temelín	52,0	1	VVER	1 × 1 000	11/92
			2	1 000	,,	5/94
			3	,,	,,	5/97
			4	,,	,,	8/98
				,,		
PŘIPRAVOVANÉ	6. Kecerovce		1	,,	,,	2000
			2	,,	,,	2001
	7. Blahutovice		1	,,	,,	2003
			2	,,	,,	2004
	8. Východní Če-chy		1	,,	,,	2006
			2	,,	,,	2007
			3	,,	,,	2009
			4	,,	,,	2010
SLEDOVANÉ OBLASTI	Západní Slovensko Severní Čechy					

Program uvádění bloků VVER 440 a VVER 1 000 do provozu

Figure 10: Czechoslovak programme of commissioning blocks of VVER-440 and VVER-1000 reactors.[266]

[265] Kubín, *Rozvoj energetiky*, 149.
[266] Ibid., 150.

In contrast to Czechoslovakia, in Austria, supplying households and industries with heat and energy became more complicated. The consumption increased by about 1,5 %, annually, and Austria could not cover the demand with its own energy production. Newly opened heat power plants could not solve this problem. After Zwentendorf, the Austrian government also fully abandoned the construction of a hydropower plant in Hainburg in July 1986 due to environmental reasons. The location was then declared a nature park. Here it is worth recalling several paradoxes resulting from Austrian politicians. The initial argument of activists against the hydropower plant in Hainburg was the environment, but this argument does not seem to apply to foreign landscapes and environment. Some Austrian politicians did not mind importing cheap electricity from the Soviet Union and other socialist countries with insufficient environmental standards to satisfy the energy demand. After the Zwentendorf referendum, Austria made it clear that it would like to focus on hydro energy.

For this reason, Austria invested 7 billion ATS in the Hungarian part of the joint Czechoslovak-Hungarian hydro project Gabčíkovo-Nagymaros in exchange for energy supply between 1996 and 2016 with an import of 1,200,000,000 KWh annually.[267] Due to this investment, Austria saved on construction of one heat power station with an output of about 200 MWe.[268] When Hungarian activists warned about the destruction of the unique nature and called on the Austrian public and the Chancellor himself “not to take advantage of the lack of democracy in Hungary for Austrian profit”, Sinowatz answered that this Hungarian group is “insignificant” and rejected any Austrian exploitation of Hungarian natural resources, pointing out the extensive domestic construction of hydro power plants along the Danube, although, Austria only used 64 % of its hydro potential.[269] The Austrian government, however, found itself in a trap when the Hungarian parliament blocked the Nagymaros construction later on.

Moving about 50 km along the Danube from the Gabčíkovo-Nagymaros Dams onto Austrian territory, the ČSSR insisted on a joint Austro-Czechoslovak hydropower plant Wolfsthal-Bratislava. The fact that the ČSSR was willing to

[267] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 86178/87.
[268] Archiv MZV, DTO 1945-89, Rakousko 17, Vědecko-technické informace, 4889/86.
[269] Archiv MZV, DTO 1945-89, Rakousko 17, Vědecko-technické informace, 4009/86. ; Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 86178/87.

propose similar conditions as were proposed in Nagymaros, namely that Austria was to cover the entire cost of construction and be paid back in electricity later on, proves this was of Czechoslovak high priority. Czechoslovak delegates also visited several Austrian hydropower plants to gain know-how.[270] Furthermore, the Czechoslovak Embassy in Vienna recommended that a working group should be established in Austria so as to resign the idea of building a hydropower plant on Dyje River in Southern Moravia, as it would require the use of Austrian territory, and would need Austrian approval.[271] Although Austria favoured hydro energy, it refused a joint project with the ČSSR. Instead, Austria prioritised the construction of a Viennese run-of-the-river hydroelectricity plant, the Nagymaros Dams and a dam eastward of Vienna. No joint Austro-Czechoslovak project was prioritised.[272] Nevertheless, Austrian Vice-Chancellor Steger left some room for manoeuvre when stating that Austrian approval for a joint hydropower plant at Wolfsthal-Bratislava required a Czechoslovak commitment to phase out nuclear energy, which the ČSSR denied.[273]

4.2 “Mammoth” Temelín Nuclear Power Plant and the Second Bilateral Nuclear Treaty

As the Chernobyl disaster exceeded the regional dimension, we can see that its effect brought new actors to fight nuclear energy, such as courts, land governments and cities. Feeling the consequences at around 1,000 km distance from the epicentre, Austrians feared what could have happened if a similar disaster had occurred to any single nuclear power plant just tens of kilometres away from their homes. The so-called “mammoth”[274] Temelín nuclear power plant raised the most concern. Its output should have been 2.5times higher than the usual 1,760 MWe, resulting in an output of 4,000 MWe. For the Austrian opponents, that meant that Temelín would be one of the largest nuclear complexes in Central-Eastern Europe and would have the same capacity as the Chernobyl nuclear power station.[275] The Temelín NPS is located 50 km from the Austrian-

[270] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 6453/86.
[271] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 7469/86.
[272] Archiv MZV, DTO 1945-89, Rakousko 17, Vědecko-technické informace, 4889/86.
[273] Archiv MZV, DTO 1945-89, Rakousko 17, Vědecko-technické informace, 4892/86.
[274] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.4/1988.
[275] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.45/1986.

Czechoslovak border, 120 km from Linz, and 180 km from Vienna.[276] The protests mixed antinuclear and anti-communist discourse.[277] The arguments of protesters against nuclear power include radiation exposure, the impact on climate (temperature increase), consequences and evacuations in case of a crash, security scarcities of Soviet-type reactors and a strong belief that the eastern NPSs were old and insecure.[278] In Vienna, the Czechoslovak Embassy received tens of letters and petitions protesting against NPSs from districts and municipalities, primary and secondary schools' pupils as well as private persons.[279]

However, not only Czechoslovak diplomats had to deal with protests. The BMAA documented numerous forms of protests. For example, in 1986, two protests with similar conduct took place in Gmünd on 13th June and in Kleinhaugsdorf on 23rd August.[280] These are two border crossings between Czechoslovakia and Upper Austria. Participants came with banners and released balloons with leaflets in Czech and German, with appeals such as:

> *"Just like music, love and death, radioactivity knows no borders, not even ideological ones, the rich and the poor, the West and the East, are equally threatened. … We, the Austrian citizens, women and men, ask the people of Czechoslovakia, our neighbours, that they think again - and do so with all seriousness - about nuclear power and that they renounce the construction of the nuclear power plant in Temelín."*[281]

However, in both cases, the balloons flew into the opposite direction, back to Austria. In a similar spirit, a protest march against nuclear threats was held by the people from the Upper Austrian Mühlviertel (Motto: *Mühlviertler gegen Atomgefahren*) from 23rd to 29th August 1986. The protesters went from Neustift through several municipalities, released around 1,000 balloons with Czech text

[276] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.6/1989.
[277] Šmidrkal, ed., *Sousedé*, 280, 295.
[278] Znoj, "Das Atomkraftwerk Temelín," 149.
[279] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 6454/86.
[280] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.45/1986. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.68/1986.
[281] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.45/1986.

about the dangers of nuclear energy at the nearest point to the border and continued walking to Freistadt, where they had a gathering.[282]

The BMAA also registered several inquiries from individuals,[283] political representatives,[284] and initiatives such as the Catholic Action of the Diocese of St.Pölten,[285] Austrian Greenpeace,[286] Action Group Self-Defence against Temelín (*Aktionsgemeinschaft Notwehr gegen Temelín*),[287] Mothers for a Nuclear-Free Future (*Mütter für eine atomfreie Zukunft*),[288] Young Upper Austrian ÖVP members,[289] 310 teachers of the district of Freistadt against the electricity line Temelín/Ernsthofen,[290] Waldviertler Platform for a nuclear-free future,[291] and ÖVP women´s movement Vorarlberg.[292] They demonstrated their refusal and appealed to the Chancellor certain topics he should raise when visiting Czechoslovakia. For example, the Young Upper Austrian ÖVP members were not ready to "*accept Czech surplus electricity from nuclear power plants and allow transfer services for the international network*" and wanted to stress this fact to the Czechoslovak partners.[293]

The municipality of Zwettl held a podium discussion about Temelín´s possible impact on Austria.[294] Also, talks with Czechoslovak diplomats were organised, who then informed Prague that public debates confirmed that Austrians were informed, e.g. that the Czechoslovak nuclear reactors were of the same kind as those in Chernobyl, which was not actually true. This information was even published by media and things had to be clarified by Czechoslovakia.[295] According to the Czechoslovak diplomatic mission to the Republic of Austria, the local press had a significant impact on the whole situation, regularly reporting about burned nuclear fuel deposits and plans for new NPSs close to the Austrian border. These

[282] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.66/1986.
[283] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.6/1986. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.72/1986.
[284] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.92/1987. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.68/1986.
[285] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.50/1986.
[286] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.28/1987.
[287] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.55/1987.
[288] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.79/1988.
[289] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.57/1988.
[290] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.141/1988.
[291] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.139/1988.
[292] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.6/1989.
[293] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.57/1988.
[294] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.139/1988.
[295] Archiv MZV, DTO 1945-89, Rakousko 19, Politické zprávy a informace, 106664/88-4.

diplomatic visits to municipalities and discussions with locals were crucial, as they could limit the negative attacks by press.[296]

Glasnosts behind the "Iron Curtain" shed light on the broadcasting of real information about Chernobyl, miserable air and river quality in industrial and mining regions and devastated forests in the ČSSR. That led to an increased interest in the environment and the revival of the movements ČSOP and *Brontosaurus*. The first individual protests were connected to inadequate compensation for property losses.[297] Then, in 1987, protest groups such as the Czech Union for Nature Conservation, which included students of the Agricultural University in České Budějovice, went to the streets demanding information about the technical suitability and size of the NPS. The majority complained about the lack of information. In June 1989, ČSOP organised a rally to protest nuclear energy and collect signatures for a petition against the construction of the Temelín NPS.[298] In 1988, an independent "Ecological Society" (*"Ekologická společnost"*) was established,[299] and in 1989, the antinuclear power plants initiative "South Bohemian Mothers" (*"Jihočeské matky"*) was created.[300] In 1989, the Czech Green Party was formed and shortly after the Velvet Revolution, in 1990, the Ministry of the Environment was established.[301]

However, an article of Slovak newspaper *Pravda* about the work of Soviet experts during NPSs constructions in Czechoslovakia caused a big upheaval in Austria. The author´s intention was probably to highlight the valuable and necessary cooperation with the Soviet Union in nuclear issues. One could read:

> *"Statistics for the first five years of activity of a centralised group of Soviet specialists, for example, show that when applying the author's supervision in the field of design, specialists in Jaslovské Bohunice pointed out 135 deviations from project documentation, 221 in Dukovany, and others occurred in Mochovce."*[302]

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[296] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.3/1988. ; Archiv MZV, DTO 1945-89, Rakousko 15, Politické informace, 137.499/87-4.
[297] Znoj, "Das Atomkraftwerk Temelín," 147.
[298] Ibid., 147.
[299] Šmidrkal, ed., *Sousedé*, 294, 303.
[300] Schmoller, "Die Nuklearkatastrophe," 4.
[301] Šmidrkal, ed., *Sousedé*, 294, 303.
[302] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.24/1987.

Eight Austrian Green parliamentarians made an interpellation consisting of nine extensive questions directed to the Foreign Minister, bringing arguments such as nothing being reported about this in published literature, and that secret incident reports from the International Atomic Energy Agency and the Organisation for Economic Co-operation and Development proved numerous safety problems.[303] However, in June 1987, the Soviet specialists did not yet admit deviations above the 350 cases.[304] Upper Austria then requested that the Foreign Minister, on his visit to the ČSSR in July 1987, do everything to ensure that an examination of the Temelín NPS is conducted by internationally known experts.[305] Upper Austria wanted compliance with the highest possible security standards and ongoing detailed information if the Temelín NPS were to continue operating.[306] Therefore, it established a partnership with the South Bohemian Region later in May 1987.[307]

Although the ČSSR´s regions did not have competencies regarding NPSs, knowing about the general disapproval amongst the Austrian public, an Upper Austrian delegation, together with journalists who could film, visited Czechoslovakia at the end of November 1987. This visit also included a trip to the Temelín NPS construction site, where they learned more about the project in detail.[308] The delegation then shared the information with the BMAA. They quoted the ČSSR´s view:

1. The ČSSR had a long-lasting experience with nuclear energy since the 1960s,
2. Globally nuclear energy was on the rise,
3. The ČSSR manufactured 80 % of all components for its NPS, and so influenced the quality,
4. The ČSSR had one of the most modern nuclear law, containing information on all security questions since 1985,

[303] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.36/1987. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.37/1987.
[304] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.39/1987.
[305] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.47/1987.
[306] ÖSTA/ADR, BMAA, Pol. Zl. 1005.03.87/1987.
[307] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.94/1987.
[308] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.52/1987. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.7/1988. ; ÖSTA/ADR, BMAA, Pol. Zl. 1005.03.87/1987.

5. There were 30 Temelín-type reactors around the world, including two in Finland. Moreover, those in the Temelín NPS were already of the third generation,
6. Coal burning was going to come to an end, and there was not enough gas or oil,
7. It was the most environmentally-friendly solution, and one had the security risk in its hands.

Furthermore, the ČSSR informed the delegation that *"all academics have to undergo a further two-year specialized training and every two years an examination of their professional aptitude must be taken"* and that one of six shifts would always involve a training. According to the ČSSR law, state surveillance could decide whether the NPS would go into operation or not on an annual basis. Besides this, five to seven inspectors would control compliance with further global developments during operations on a daily basis. Certain experiences from Chernobyl were also incorporated into the planning. It was stressed that: *"The most important thing is nuclear safety and not electricity production at any cost. The safety of human life comes first."* [309]The delegation also asked about the reasoning behind the location of Temelín. From the point of view of the ČSSR, this location was earthquake-proof and the best choice compared to the rest of Czechoslovakia. Moreover, the ČSSR representative stated that:

> *"… You have two distribution lines, one in the north where coal-based power plants work and one in the south where the nuclear power plants are built, because here you are independent of the source. Temelín, however, is the last nuclear power plant on the south line, then the north will also be converted to nuclear power."*[310] "

Nevertheless, various municipalities and big cities such as Wildendürnbach,[311] (1986), Braunau am Inn,[312] Großraming,[313] Schwand,[314] (1987), Laa an

[309] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.94/1987.
[310] Ibid.
[311] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.63/1986.
[312] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.89/1987.
[313] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.4/1988.
[314] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.66/1988.

der Thaya,[315] Rainbach,[316] Bad Zell,[317] Pettenbach,[318] Munderfing,[319] Neukirchen an der Enknach,[320] Ried im Innkreis,[321] Salzburg,[322] Freistadt,[323] Windhaag bei Freistadt,[324] Wilhering,[325] Kronstorf,[326] Linz,[327] (1988), and Grünbach,[328] (1989) released resolutions in protest.

Most of the protests concentrated around the bordering municipalities in Upper Austria. Apart from the construction of the Temelín nuclear power plant, Wackersdorf also mentioned that the reprocessing plant in Bavaria seemed to endanger the Upper Austrian population as well. Austrians stressed the start of negotiating a new treaty; otherwise, *"in the medium term, it* (the protests) *could counteract the improvement in the relations between Austria and Czechoslovakia"*.[329] Austrian federal representatives at the BMAA acknowledged that Austrians wished that the *"ČSSR withdraws from nuclear energy or at least has a construction freeze for new NPSs"*.[330]

The standard BMAA answer sounded like this:

> *"We have to assume that the vast majority of states will continue to regard the use of nuclear power … as necessary, if not indispensable. … Therefore, there is currently no possibility of enforcing our concerns, including working towards a renouncement of the implementation of nuclear power plant projects abroad, by means of intergovernmental negotiations. It is all the more important to obtain a right to information and consultation in the planning, construction or operation of nuclear facilities in the neighbourhood through contracts."*[331]

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[315] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.8/1988.
[316] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.66/1988.
[317] Ibid.
[318] Ibid.
[319] Ibid.
[320] Ibid.
[321] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.61/1988.
[322] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.104/1988.
[323] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.115/1988.
[324] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.8/1989.
[325] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.140/1988.
[326] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.3/1989.
[327] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.9/1989.
[328] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.18/1989.
[329] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.74/1988.
[330] Ibid.
[331] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.4/1988.

Prominent Austrian politicians like the Foreign Minister Gratz highlighted the 1982 ČSSR-Austrian Treaty,[332] which helped calm the bilateral climate after the Chernobyl hysteria in Austria.[333] However, the treaty was attacked and criticised in the Austrian press and politicians, such as the nine Governors, presented a request for neighbours to stop the construction of future NPSs and close the current ones. The Viennese Mayor Helmut Zilk (SPÖ) also mentioned the threat from Czechoslovak, Swiss and West German NPSs and requested more detailed information.[334] Thus, Austrian diplomacy adopted a new goal to extend the 1982 treaty with the ČSSR to include additional Czechoslovak nuclear power plants under the term "near", especially Temelín, because of its special technical features.[335]The treaty itself was seen as outdated and "overcome by the developments".[336] One claim was that it was not clear which NPSs are now considered as "close to the border" (*"grenznah"*).[337] However, at the beginning, there was no enthusiasm from the Czechoslovak side, which was confirmed by Minister Alois Indra in September 1986 when he said that he did not see any possibility for extending the treaty.[338] That attitude changed after Foreign Minister Chňoupek´s visit to Vienna in July 1987. He told his counterpart that he did not see any reason against a broadening of the cooperation and would do his best. He then created an ad hoc expert group to that regard.[339]

On their first expert meeting in Prague in October 1987, the Czechoslovak expert delegation was not prepared to include other NPSs under the umbrella of the 1982 treaty and instead offered a periodic transmission of radiological measurement values for the entire Czechoslovak territory.[340] Their main arguments were that the content of 1982 bilateral treaty was outdated, especially due to the two IAEA conventions from September 1986, stating the operation of nuclear facilities was a sovereign matter for every state. They pointed out that the positive

[332] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 6454/86.
[333] NA, f. KSČ-ÚV (1945-1989), ČR, č. 648.
[334] Archiv MZV, DTO 1945-89, Rakousko 16, Ekonomické informace, 6454/86.
[335] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.77/1988.
[336] NA, f. Úřad předsednictva vlády ČSSR/ČSFR, registratura, rok 1989, karton 36, nezpracováno, Informace k návrhu usnesení vlády ČSSR.
[337] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.56/1986.
[338] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.73/1986.
[339] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.87/1987. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.98/1988.
[340] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.87/1987.

fact that the ČSSR agreed to provide information on an annual basis should be appreciated.[341] The ČSSR reported extensively about security and reassured that there would be no threat to neighbouring countries from the Czechoslovak NPSs.

The BMAA also received impulses to go ahead with negotiations with Czechoslovakia, such as the European Parliament, which demanded a binding resolution that "no nuclear power plant may be put into operation within a zone of 100 km to the border of a neighbouring member state unless the neighbouring state concerned has expressly given its consent."

Meanwhile, the experts tried to find common ground, where in general, the Austrians attempted to take the solution into their hands. Mr. Georg Maier sought an injunction against the construction of the Mochovce nuclear power plant because the plant had not been authorised and because it threatened to have a radioactive impact on his properties, which were only 115 km away, during normal operations, but especially in the event of an accident. The district court in Korneuburg dismissed the action and denied the injunction as it lay outside of its jurisdiction.[342] However, on 23rd February 1988, the Supreme Court of Justice in Austria declared that Austrian courts are eligible for complaints requesting the halt of construction of nuclear power plants on Czechoslovak territory. Such courts are eligible for claiming sanctions against the ČSSR like property executions. Therefore, Mr. Maier´s case was assigned back to the Korneuburg district court. Czechoslovakia protested against this decision, invoking the principle of its absolute immunity from any foreign jurisdiction.[343]

Czech newspaper *Rudé právo* and Slovak *Pravda* published on 23rd April the official statement of the Czechoslovak Foreign Ministry:

> *"… the decision of the Austrian Supreme Court is absurd, because the ČSSR did not violate the norms and principles of international law with the construction of nuclear power plants in the ČSSR´s territory and did not cause damage to the Austrian side. The Austrian judicial authorities do not have a right to hear lawsuits to halt the construction of nuclear power plants in the ČSSR. Austrian judicial authorities do not*

[341] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.77/1987.
[342] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.110/1988.
[343] Ibid. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.70/1988.

respect the principle of absolute immunity of States as sovereign entities of the international community. The decision of the Austrian Supreme Court contradicts international law and does not contribute to the creation of good neighbourly relations."[344]

Czechoslovak political goodwill, such as was providing information beyond the framework of the 1982 treaty and the opportunity to visit NPS, etc., was retracted.[345] On 26th April, MZV Spokesman Dušan Rovenský further stated at a press conference:

"… that we (ČSSR) *have a sincere, genuine and eminent interest in balanced neighbourly relations with Austria. We condemned the so-called decision of the Austrian Higher Court regarding ´Punishment of the ČSSR´ for the construction of nuclear power plants as an unprecedented act of interference in our sovereignty."*

He further reassured *"that this situation, while not helping to create good relations, will not affect our bilateral dialogue."*[346]

The negotiations moved after Chancellor Vranitzky´s (SPÖ) visit to the ČSSR in June 1988. He recalled the fear of his fellow citizens and reiterated the Austrian position that the new treaty must include all NPSs. Any reference to "near border" should be taken out as a result of the Soviet policy on hiding information after the Chernobyl crash.[347] *"It is an essential political obligation to take seriously the concerns of the Austrian population in this regard"*, he said.[348] This Austrian request was approved on political level.[349] Accompanying Chancellor Vranitzky, the Minister of Environment, Youth and Family Affairs, Marilies Flemming, mentioned that "nuclear energy should develop" referring to a joint American-Soviet programme. Furthermore, she wondered about possibilities to store low-level radioactive waste from Seibersdorf in the ČSSR. However, the ČSSR

[344] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.43/1988.
[345] Ibid.
[346] Ibid. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.44/1988.
[347] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.144/1988.
[348] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.116/1988.
[349] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.88/1988. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.98/1988.

did not store burned nuclear fuel on its territory, only for a short period of time within the NPSs, before transporting it back to the USSR.[350] She appreciated the possibility for Austrian experts to visit Czechoslovak NPSs.[351]

As a result of that visit, two expert conferences took place, between 26th-27th September in Vienna, and 9th-11th November in Prague. The official negotiation round took place between 1st and 2nd December 1988 in Vienna when the treaty text was negotiated.[352] Various Austrian media reacted differently e.g. *Wiener Zeitung* wrote about "Improvements" to the 1982 treaty and that the ČSSR made concessions.[353] *Der Standard* requested the construction in Temelín to stop,[354] the *Vorarlberger Nachrichten* criticised the results,[355] and *Neues Volksblatt* published a letter of Mr. Jiří Nedoma, member of the Czechoslovak Academy of Science, about earthquakes in Central Europe and other critical remarks on the Czechoslovak nuclear policy.[356]

However, nothing could stop the signing of the new treaty on the settlement the of question of the common interest in connection with nuclear safety and radiation protection on 25th October 1989. It happened 24 days before the political change in Czechoslovakia – the Velvet Revolution.[357] It would have been interesting to understand the Austrian view on signing the treaty and whether Austria expected a political change and feared a different/more difficult political collaboration with a new system in Czechoslovakia, therefore rather wanting to conclude the treaty with communists. The treaty consists of a preamble, 13 articles and one annex and differs a lot from the 1982 treaty. However, the ČSSR did not admit that the 1989 treaty would exceed the two IAEA conventions and the 1982 treaty. The ČSSR highlighted that the 1989 treaty reflected experiences made after Chernobyl. Listing all nuclear apparatuses such as research reactors and others, not only NPSs, was presented as a binding act for both contract sides and

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[350] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.3/1988.
[351] NA, f. KSČ-ÚV (1945-1989), 02/1 (1986-1989) aj. 77, sv. 79, Správa o priebehu a výsledkoch oficiálnej návštevy spolkového kancelára Rakúskej republiky Franza Vranitzkého v ČSSR v dňoch 26.-28. júna 1988.
[352] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.160/1988. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.161/1988.
[353] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.149/1988.
[354] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.7/1989.
[355] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.6/1989.
[356] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.7/1989.
[357] Ministry of Foreign Affairs of the Czech Republic, Central European Department, private correspondence with the author, 20th May 2021.

that is why the treaty was favourable for both sides. Communists also pointed out *“in this context, it should be noted that the Zwentendorf NPS is only preserved.”*[358]As the Zwentendorf NPS was not put into operation, the 1982 treaty seemed to be more beneficial to the Austrian side. However, the destiny of the NPS Zwentendorf was sealed after the Chernobyl crash three years before.

Looking closely in the treaty, the preamble states that governments are *"convinced that a timely exchange of information and experience on nuclear safety and radiation protection can make a significant contribution to the safety of the population of both contracting parties"*. Austria and Czechoslovakia agreed to inform on any nuclear crash (altogether five cases listed) immediately when one side starts applying measures to protect its own citizens. The information obligation was extended to all existing and future NPSs (not only Dukovany, but now also included Temelin, Mochovce, Bohunice), but also to events, which could cause fear amongst citizens, such as controlled demolition close to nuclear apparatuses. Compared to the 1982 treaty, the radiation monitoring extended to the entire state territory, copying the same measures from the previous treaty (aerosol, drinking water, soil etc.). Furthermore, the original six-month information obligation was now extended to years as it was agreed that information would flow straight after the announcement of the construction permission.[359] The information process ran via the Czechoslovak Atomic Energy Commission and the BMAA as well as organizing expert talks, while the ČSSR stressed that there is no obligatory commitment to enable visits or inspections to Austrian experts to operating nuclear apparatuses. Article 9 states that *“the content of information obtained from the other party…. may be used by the party to inform the public, unless the other party declares it confidential”.*

For Czechoslovakia article 11 was very important, which ensured that *“any disputes regarding the interpretation and implementation of this agreement … will be settled through negotiations between the contracting parties.”* That was a reference to the decision of the Austrian Supreme Court of Justice based upon the injunction request of Mr. Maier. Moreover, the ČSSR once again denied the liability question, recalling the question of the responsibility of states for activities,

[358] NA, f. Úřad předsednictva vlády ČSSR/ČSFR, registratura, rok 1989, karton 36, nezpracováno, Důvodová zpráva.
[359] ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.160/1988. ; ÖSTA/ADR, BMAA, Pol, Zl. 1005.03.161/1988.

which are not prohibited by international law. This is subject of discussion in the relevant UN bodies. The treaty was concluded for an unlimited period of time and can be terminated following the diplomatic way.[360] The treaty entered into force on 23rd July 1990 and thus replaced the old treaty. Based on this treaty, a bilateral group was established, co-managed by the State Office for Nuclear Safety (SÚJB), which, as an independent expert party, oversees the safe operation of nuclear power plants in the Czech Republic. The group meets annually and alternates the location between the Czech Republic and Austria.[361]

5 LEGACIES

With the Velvet Revolution, Czechoslovak-Austrian relations entered a new era. A very turbulent one as far as the nuclear power plants are concerned. However, environmental protection continued to become more important in the Austrian national identity, often taking first place in various pools. Environmental protection became even more important than full employment. Therefore, any potential natural disaster would be considered as an attack on Austrian identity.[362] Austria did not give up its aim to make Czechoslovakia close its NPSs and even offered an alternative energy supply if the Jaslovské Bohunice NPS was closed.[363] The Czech Republic and the Slovak Republic modified the ambitious communist nuclear programme; the Czech Republic immediately approved the construction of the Temelín NPS in 1993, albeit with one change – instead of four, only two blocks were to be constructed.[364]

Ms Dana Janovská´s 30-year-long experience as a Dukovany Power Plant Information Centre guide illustrates the period events. There were not many protests against the Dukovany NPS, compared to the NPS Temelín, as it has already been in operation since socialist times, and its security, compared to other global

[360] NA, f. Úřad předsednictva vlády ČSSR/ČSFR, registratura, rok 1989, karton 36, nezpracováno, Důvodová zpráva. ; NA, f. Úřad předsednictva vlády ČSSR/ČSFR, registratura, rok 1989, karton 36, nezpracováno, Dohoda mezi vládou Československé socialistické republiky a vládou Rakouské republiky o úpravě otázek společného zájmu týkajících se jaderné bezpečnosti a ochrany před zářením.
[361] Ministry of Foreign Affairs of the Czech Republic, Central European Department, private correspondence with the author, 20th May 2021.
[362] Šmidrkal, ed., *Sousedé*, 316-317.
[363] Veber, *Dějiny Rakouska*, 586.
[364] Kunštát, "Česko-rakouské paralely," 84, 87-88. ; Virtual Tour to the Temelín Nuclear Power Plant on 25th February 2021. ; Znoj, "Das Atomkraftwerk Temelín," 146.

NPSs, was evaluated as high by the international community. If visitors were aged 18+ and showed interest, they could even go to the nuclear reactor. In the 1990s, Austrian representatives demonstrated interest in bringing their fellow citizens to the Dukovany NPS to show them what it is all about, instead of relying solely on Austrian media to form a personal opinion. Ms Janovská remembers that she took groups of 50 Austrians directly to the reactor. Many of them were surprised and concluded that their negative attitude toward nuclear energy was only because they did not know the other side to it and did not know what nuclear energy meant in practice. Unfortunately, the possibility to go directly to a reactor does not exist anymore, ever since the attacks in America from 11th September 2001.[365]

Protest movements with border crossings gained strength, and the Austrian government used new political tools – its membership in the European Union. Vienna threatened not to support Czech membership aspirations if it did not step back from the Temelín NPS.[366] Both sides ignored counterarguments. Prague had a feeling that Vienna was dictating terms, whereas Austria was convinced that the Czech Republic as a "junior partner" should step back.[367] Together with the completion of the Temelín NPS construction works, the FPÖ organised an antinuclear campaign during which it collected around 915,000 signatures.[368] On the other side, Czech protesters failed because they did not have political representation (just after 2006) to challenge the government and had little understanding in the society as ¾ of the population supported nuclear operations.[369] The EU stepped in as a mediator on 12th December 2000. In the presence of European Commissioner for Enlargement Günter Verheugen, Prime Minister Miloš Zeman, Chancellor Wolfgang Schüssel agreed on a comprehensive inspection of the Temelín nuclear power plant before start of operations as well as on standardised informing (hot line) when signing the so-called Melk Protocol, which was then transferred to the Brussels Treaty.[370] The Temelín NPS has been in operation since 2002.[371]

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[365] Virtual Tour to the Dukovany Nuclear Power Plant on 11th April 2021.
[366] Kunštát, "Česko-rakouské paralely," 84, 87-88.
[367] Šmidrkal, ed., *Sousedé*, 350.
[368] Rauchensteiner, *Unter Beobachtung*, 555.
[369] Znoj, "Das Atomkraftwerk Temelín," 149. ; Schmoller, "Die Nuklearkatastrophe," 5.
[370] Rauchensteiner, *Unter Beobachtung*, 554. ; Znoj, "Das Atomkraftwerk Temelín," 149.
[371] Šmidrkal, ed., *Sousedé*, 315.

The Protocol between the Government of the Czech Republic and the Government of the Republic of Austria, amending the 1989 treaty, which was signed on 20th December 2007 and came into effect on 1st July 2008, enables the conduct of a safety dialogue at a qualitatively high level, significantly above standard and is unique in the European context in terms of access to information on the operation of nuclear power plants in the Czech Republic.[372]

The Czech Republic is a signatory state to the commitments for using nuclear energy for peaceful purposes. The International Atomic Energy Agency in Vienna is able to monitor live, via cameras, every reactor hall as well as the storage hall of used fuel in all NPSs at any time. When opening and closing a reactor cover, a special commissioner from IAEA has to visit the NPS and unseal and seal the reactor cover. Besides this, Czech NPSs also send camera records to Vienna. and communicate with Austria on a daily basis. Also, regular bilateral meetings of operators, regulators and other institutions take place.[373]

The new proposal concerning the construction of an additional nuclear block in the Dukovany NPS was highly debated in the Czech media in the last months. The debate was whether Chinese and Russian companies should be involved in critical infrastructure. The answer was no – the Chinese were excluded in March, followed by the Russians in April 2021. Among the remaining interested parties are the Americans, the French, and the South Koreans.

However, the Head of the State Office for Nuclear Energy, Dana Drábová, stated that one additional nuclear block does not solve anything. Such a reactor would only compensate for half of the Dukovany NPS output. The problem is that the nuclear blocks will “retire soon” between 2035 and 2040, although the Ministry of Industry and Trade is counting on the prolongment of the operational capacities. Ms Drábová pointed out that there is not much experience with nuclear power plants aged 50+ years. Furthermore, she questioned the reliability of economic effectiveness considering the amount security requirements that need to be maintained.[374]

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[372] Ministry of Foreign Affairs of the Czech Republic, Central European Department, private correspondence with the author, 20th May 2021.
[373] Virtual Tour to the Dukovany Nuclear Power Plant on 11th April 2021.
[374] Česká televise, “Otázky Václava Moravce: Problém jádra a jádro problému,” accessed 2nd May 2021, https://www.ceskatelevize.cz/porady/1126672097-otazky-vaclava-moravce/221411030510502-otazky-vaclava-moravce-2-cast/.

The Ex-Government Plenipotentiary for Nuclear Energy, Jaroslav Míl, reminded people, that the Czech Republic will lose all energy output from coal sources by around 2035-2040, which makes up approximately 10,000 MWe output. Thus, the Czech Republic may see a dramatic change and become an energy-importing country, instead of the current status of being an energy-exporting country. Moreover, the whole Central European Region would face a similar situation. This argument was stated in Brussels to get the approval (for the reactor). The Dutch and Polish also reached similar conclusions. To prevent turning off ¼ of the Czech Republic for a couple of hours daily, diversification of energy sources is needed. Furthermore, Mr. Míl highlighted that the Czech Republic will need at least 5,000 MWe from emission-free sources (EU policy). [375] Nowadays, the debate is more about pollution (coal and gas) and emission-free energy sources (water, wind, solar, biomass, nuclear, geothermal, tidal).

Energy source	Advantages	Disadvantages
Coal and gas energy	Large output	Emissions
Renewable energy	Clean Inexhaustible	Weather dependent
Nuclear energy	Clean and stable Large output (even 11 months nonstop operating) Low production cost Safe source	Higher acquisition cost (but relatively quick turnover) longer construction time

Figure 11: Advantages and disadvantages of various energy sources.[376]

Polish Energy Analyst, Wojciech Jakóbik, highlighted the EU common climate and energy policy states that the countries can decide on their energy mix themselves. However, it is up to the European Commission to describe the environmental standards and regulation. Nuclear energy is not 100 % clean, but it could serve the EU climate policy. The EU will not make other countries decide how to lead their energy policy. Mr. Jakóbik confirmed that:

[375] Ibid.
[376] Virtual Tour to the Dukovany Nuclear Power Plant on 11th April 2021.

> *"Austrians cannot do anything about these projects. They can protest, they have the right to protest, but they cannot force other countries to quit nuclear energy. It is up to public opinion mainly, and politicians are limited by public opinion. … the government is currently representing Austrians well, because Austrians are antinuclear and the Austrian government is antinuclear as well, so they are doing a good job."*[377]

Furthermore, the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) states an obligation to consult energy projects with transboundary effects with neighbours.

One could ask to what extent Austria is actually a nuclear-free country. Unfortunately, it is not possible to differ the energy source after the energy is sent to the electric power transmission.[378] However, Austria has an energy import balance, covering around 15 % of electricity consumption during certain months (August until March). 95 % of imports come from Germany, the remaining 5 % from the Czech Republic. However, 40 % of German electricity flows via the Czech Republic, so, the Czech Electric power transmission plays a crucial role in providing security and reliability of electricity supply in Austria. Without knowledge of specific business transactions, it is impossible to determine how countries´ energy production mix contributes to cross-border trade and other countries' consumption mix. Electricity supplied to final consumers in Austria is subject to a designation of origin. However, this is only a sign of commercial transaction and does not guarantee that electricity will physically flow from contracted sources. Based on the physical flows and the distribution of sources in individual countries, it can be deduced that electricity from nuclear sources in the Czech Republic is probably partially consumed in Austria. However, Austria is a transit country, and 60 % of the imported energy will be exported further.[379] The Danish-French start-up Tomorrow[380] can inform about the generation and consumption of energy as

[377] Energy Security Webinar with Mr Wojciech Jakóbik on 8th May 2021. Organized by the European Academy of Diplomacy.
[378] ČEZ, a. s., Infocentrum Jaderné elektrárny Temelín, private correspondence with the author, 1st March 2021.
[379] ČEPS Invest, a.s., HR Business Partner, private correspondence with the author, 8th April 2021.
[380] "Electricity Map," electricityMap, accessed 9th June 2021, https://www.electricitymap.org/map.

well as power flows and energy origin at any time, using publicly accessible sources.

Representatives of both Foreign Ministries in Prague and Vienna (MZV ČR and BMEIA) are united in their opinion, that mutual relations are “excellent, very close, and intense”. The BMEIA stated that: In view of Austria's rejection of nuclear power, the question of the development of nuclear power is part of the routine exchange and is addressed in almost every bilateral contact, e.g. when Federal Minister Schallenberg visited Prague on 6th May 2021 - excerpt from the press release: *“… Foreign Minister Alexander Schallenberg states: Austria respects the sovereignty of its neighbours in the choice of energy sources. But we too have legitimate interests. Openness and transparency are necessary here. ”*[381] The BMEIA recognises that there are few possibilities for “negotiation” regarding the determination of the energy mix by sovereign states and that the long experience of the Austrian and Czech nuclear experts in the bilateral exchange of information on nuclear safety and radiation protection has resulted in a high degree of openness and transparency.[382] MZV ČR said that the discussion about nuclear energy is moving to EU forums. Six out of eight Austrian neighbours apart from Italy and Liechtenstein have nuclear power plants on their soil (see figure 1).[383] According to MZV ČR, Austria does not differ between the neighbouring NPSs, except for the Slovenian Krsko NPS.[384]

[381] Federal Ministry for European and International Affairs, Referat III.7.a – Beziehungen zu Kroatien, Polen, Slowakei, Slowenien, Tschechische Republik, Ungarn, private correspondence with the author, 21st May 2021.
[382] Federal Ministry for European and International Affairs, Referat III.7.a – Beziehungen zu Kroatien, Polen, Slowakei, Slowenien, Tschechische Republik, Ungarn, private correspondence with the author, 21st May 2021.
[383] ÖSTA/ADR, BMAA, POL, Zl. 1005.02.19/1977.
[384] Ministry of Foreign Affairs of the Czech Republic, Central European Department, private correspondence with the author, 20th May 2021.

6 CONCLUSION

Proper relations with neighbouring states form a basis for any state´s foreign policy. This was demonstrated quite nicely during the Covid-19 Pandemic. Austrian Foreign Minister Alexander Schallenberg for example stated that “Neighborhood is key”.[385] Therefore, the goal of this Master Thesis, “Encircled but Managing – Nuclear Energy in the Austro-Czechoslovak Relations 1948-1989”, was to discover the origins of an ongoing but already cultivated diplomatic rift. The research fulfilled its goal and concluded that different reactions to nuclear crashes and the social establishment under which nuclear power developed, played a crucial role. Nuclear energy, as a Soviet invention, was strongly promoted and popularised in Czechoslovakia. To some extent, having operable nuclear power plants was perceived as a gesture of national prestige and pride. Moreover, the communist regime in Czechoslovakia did not tolerate protests against the official position, especially from capitalist states, whereas Austria allowed the “import” of western antinuclear movements. The SPÖ, ÖVP, and FPÖ politicians adjusted themselves, whether by politicising the issue to reflect their achievements (the 1978 Zwentendorf nuclear power plant´s opening referendum) or ignoring and conspiring against a citizen´s decision (the parliamentary debate about the second Zwentendorf´s referendum between 1984 and 1985). The respect for given commitments and the political consensus only came after the Chernobyl disaster. The entire nuclear “evolution” in Austria could be therefore summed up in three words – acceptance (1948-1977), hesitation (1978-1985), and resistance (1986-1989/present).

Regarding the self-image as a “green, environmental-friendly, and antinuclear Austrian nation”, one might say that it was true for ordinary Austrians, to a lesser extent for some big industries and not at all for a vast majority of politicians who did not mind importing energy for convenient prices from states with lower environmental standards, including the use of nuclear energy. Unfortunately, the factual evidence to determine nuclear energy imports is impossible as the energy given to the electric power transmission cannot distinguish its source of origin (water, wind, etc.).

[385] Federal Ministry for European and International Affairs, Referat III.7.a – Beziehungen zu Kroatien, Polen, Slowakei, Slowenien, Tschechische Republik, Ungarn, private correspondence with the author, 21st May 2021.

The documents from the 1970s and 1980s, especially bilateral meeting reports from the Central Committee of the Czechoslovak Communist Party (1945-1989) fund in the Czech National Archives, indicate that nuclear power not always dominated bilateral relations. Indeed, not until November 1978 when Austria still ran its own nuclear power plant construction programme. After that, Austrian diplomacy engaged in talks with Czechoslovakia to be properly informed about the near nuclear apparatuses such as nuclear power stations and storages for burned nuclear fuel and other waste. Such attempts resulted in the signing of the so-called “pioneering” first bilateral informative nuclear treaty in 1982, the first of its kind. Fear of the potential danger of near nuclear power plants was put higher on the agenda after Chernobyl. The Austrian Foreign Ministry, pressured by citizens, various initiatives, municipalities, and politicians, took a stance to persuade Czechoslovakia to resign from its Soviet-type nuclear power plants. The outcome was the second bilateral informative nuclear treaty from 1989. It can be stated that the first one from 1982 was a Czechoslovak “victory”, as its conditions were listened, and it had limited information obligations. Contrary to that, the second treaty from 1989 was clearly an Austrian “victory”. The treaty covered all nuclear apparatuses covering the entire territory and extended the information period significantly. Czechoslovakia was interested in having respectable relations with Austria. It is therefore not surprising that it listened to Austrian concerns and agreed to both treaties. However, their negotiations did not avoid possible prolongments.

The main contribution of this Thesis is the analysis of approximately 5,000 untouched pages from the Austrian State Archive covering events between 1972 and 1989 and the synchronisation of both Austrian and Czechoslovak approaches to nuclear power and nuclear power plants. The original plan to look at the reports from both bilateral representations was not followed, as the files were transferred from the Austrian Foreign Ministry to the Austrian State Archives recently and were not ready for study. The fact that the documents were not sorted appropriately, further complicated the research in Vienna in comparison to Prague. Due to the process of this research being extremely time-consuming and the large number of files, I could only study documents from one concrete fund devoted to nuclear energy in Austro-Czechoslovak relations in Vienna. It would have been beneficial to investigate the files from the Austrian Embassy in Prague

as well and, thus, also explore a fund earmarked to Austrian multilateral performance within the International Atomic Energy Agency. Especially whether and how Austria eventually wanted to make the international community pressure Czechoslovakia. Unfortunately, the thirty-year rule in Austrian archives does not yet allow for research on the turbulent time between the 1990s and 2000s. On the Czech side, it would have been interesting to look into untouched documents from the Czechoslovak Ministry of Fuel and Power or the Czechoslovak Atomic Energy Commission. Furthermore, this Thesis does not examine the differentiation between military and peaceful use of nuclear energy. It is likely that Austria did not fully manage to separate these issues, as fear from nuclear war was in the air.

Finally, the Thesis title consists of two words, “Encircled” and “Managing”. Why? After rejecting its own nuclear programme, Austria realised that four neighbours had encircled its territory with nuclear apparatuses. Having acknowledged the impossibility, apart from protests, to force Czechoslovakia to give up its peaceful nuclear programme, it can be stated that the topic of nuclear power plants was solved. Vienna dislikes the fact that protests are the only thing it can do, but it can be concluded that, in a somewhat provocative manner, that Austrians are getting used to the “encirclement”. It seems like it has become a formality or a habit to raise the nuclear issue whenever meeting Czech partners. From that point of view, the term “managing” is quite descriptive.

Interestingly, the Austrian argument about relative closeness is understandable, but at the same time, vague. Hardly anyone remembers in 2021, 43 years since Zwentendorf´s referendum, that Austria built its nuclear power plant just 60 kilometres from the Austro-Czechoslovak state border and as such also endangered the Czechoslovak population.

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8 LIST OF ABBREVIATIONS

ATS	Austrian schilling (AT currency until 1999/2002)
BMAA	Austrian Federal Ministry for External Affairs
BMEIA	Austrian Federal Ministry for European and International Affairs
COMECON	Council for Mutual Economic Assistance
CSCE	Conference on Security and Cooperation in Europe
ČSOP	Czech Union for Nature Conservation
ČSR	Czechoslovak Republic (until 1960)
ČSSR	Czechoslovak Socialist Republic
EU	European Union
FPÖ	Freedom Party of Austria
GDR	German Democratic Republic
GFR	German Federal Republic
IAEA	International Atomic Energy Agency
IÖAG	Initiative Austrian Nuclear Power Opponents
KSČ	Communist Party of Czechoslovakia
KWh	Kilowatt-hour
MFA	Czechoslovak/Czech Ministry of Foreign Affairs
MWe	Megawatts electric
MZV ČR	Ministry of Foreign Affairs of the Czech Republic
NPS(s)	Nuclear power station(s)
ÖVP	Austrian People´s Party
SGAE	Austrian Study Society for Atomic Energy
SPÖ	Social Democratic Party of Austria
U.S.	United States
USSR	Union of Soviet Socialist Republics
VVER	Water-water energetic reactor