

## CHAPTER I

### INTRODUCTION

#### A. Background

Nuclear energy is a clean, safe, reliable and competitive energy source.<sup>1</sup> It is the only source of energy that can replace a significant part of the fossil fuels (coal, oil and gas) which massively pollute the atmosphere and contribute to the greenhouse effect. Nuclear power, especially radioactive substances have been widely used in various fields. Nuclear can used as atomic bomb or electrical energy. Nuclear also can used for sterilization of pharmaceutical products and medical equipment, food preservation, and the field of hydrology, which is the application of nuclear technology for non-energy.

Nuclear testing was first done in the desert state of Mexico by the United States in July 1945. Furthermore, U.S. continued nuclear experiment in World War II on Hiroshima and Nagasaki in August 1945.<sup>2</sup>

After the United States, the Soviet Union in August 1949 was also successfully performed nuclear testing in Semipalatinsk (now Kazakhstan). In addition, the Soviet

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<sup>1</sup> Bruno Comby, Benefits of Nuclear Energy, p.1 on 2001. Retrieved on 14 September 2011 from <http://ecolo.org/base/baseen.htm>

<sup>2</sup> Badan Tenaga Nuklir Nasional, Percobaan Nuklir, 2001. Retrieved on 14 September 2011 from [http://www.warintek.ristek.go.id/nuklir/percobaan\\_nuklir.pdf](http://www.warintek.ristek.go.id/nuklir/percobaan_nuklir.pdf)

union in 1954 successfully operated a nuclear power station that produces electrical energy by 5 megawatts (MW) per year in Obninsk (near Moscow), Russia.<sup>3</sup>

Russia recorded as the the world's first nuclear power plant to generate electricity for a power grid started operations at Obninsk, the Soviet Union on June 27, 1954.<sup>4</sup> In 2010, Russia recorded has 31 nuclear reactors. Besides Russia, the three big countries that actively building nuclear energy is U.S. with 104 nuclear reactors, France with 59 nuclear reactors, and Japan with 53 nuclear reactors.

Russia does not have a lot of nuclear reactors when compared with the U.S., France and Japan. However, Russia has recorded the most widely cooperation with other countries in the field of energy including nuclear energy. In the last 2 years, Russia has recorded seven projects in the field of nuclear energy. Countries such as India, China, Iran, and Venezuela cooperate with Russia in the nuclear energy power plant development. This is because Russia has adequate technology and technicians in building nuclear power plants.

Russia listed as one of country that has a lot of experience in help for resolving the nuclear problems as in the case of Iran's nuclear and nuclear power plant leaks Japan. In the nuclear case of Iran, Russia is the only country that openly dared to resist

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<sup>3</sup> Ontario Power Generation, History Nuclear Power Milestones, 2010. Retrieved on 14 September 2011 from <http://www.mei.gov.on.ca/en/energy/electricity/?page=nuclear-history>.

<sup>4</sup> World Nuclear Association, Nuclear Power in Russia, 2006. Retrieved on 14 September 2011 from <http://world-nuclear.org/info/inf45.html>

U.S. intervention and the IAEA on Iran accused of violating the NPT.<sup>5</sup> At the time of leakage of nuclear power Japan, Russia was the first who asked for assistance by Japan to help overcome the leakage and the impact it will happen. Therefore, Russia is the country most capable and independent in developing nuclear power plants into nuclear power.

Russia has a state own enterprise called Russian Federation's State Atomic Cooperation (Rosatom). Rosatom holds leading positions in the world market of nuclear technologies being the 1-st in the world of simultaneous nuclear build is abroad, 2-nd in the uranium reserves and 5-th in uranium mining, 4-th in nuclear electricity generation, while Providing 40% of the world uranium enrichment services and 17% of the world nuclear fuel market.<sup>6</sup>

Enrichment of uranium itself can divide into HEU(High Enrichment of Uranium) that usually use in making atomic bomb and LEU(Low Enrichmeny Uranium) that use in ligh water reactor (LWR) in the form of nuclear power plant.<sup>7</sup> As a country which has power in the energy sector, Russian president Dmitriv Medvedev on 27 November 2009 took the initiative to submit proposals to the IAEA to establish a low enrichment uranium reserves namely IUEC(The International Uranium Enrichment Center). The proposal submitted by Russia about LEU to the IAEA are making some

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<sup>5</sup> Alla Kassianova, Russia Weapons Sales to Iran; Why They are Unlikely to Stop, 2006. Retrieved on 14 September 2011 from [http://www.gwu.edu/~ieresgwu/assets/docs/ponars/pm\\_0427.pdf](http://www.gwu.edu/~ieresgwu/assets/docs/ponars/pm_0427.pdf).

<sup>6</sup> ROSATOM, About Rosatom, 2008-2010. Retrieved on 14 September 2011 from <http://www.rosatom.ru/wps/wcm/connect/rosatom/rosatomsite.eng/about/>

<sup>7</sup> Fendy.K.S, Pengayaan Uranium, 2011. Retrieved on 11 October 2011 from <http://indone5ia.wordpress.com/2011/08/31/pengayaan-uranium/>

countries such as European countries asking about the ability of Russia in developing nuclear. European countries fear Russia had problems in the field of technology and resources that makes Russia should request help from the IAEA to establish a low enrichment uranium reserve. Moreover, Russia produces more than 40% of electricity in the country's European part.<sup>8</sup>

Referring to the issue above, interesting to learn for find out why Russian government submit proposal to IAEA for cooperate in establish LEU reserve, especially after appear the concerns of countries that depend on nuclear energy Russia such as European states, Iran,etc. Moreover, Russia is the country which capable develop nuclear independently without help from others state because Russia has technology, uranium mining and experience in develop nuclear. It is prove when many state like European countries depend on the Russia capabilities in energy. But, when Presiden Dmitry Medvedev submit proposal for cooperate with IAEA, it is can make Russia see as state that still weakness in develop nuclear. In short, because Russia as country that has big influence and technology in develop nuclear should asking help to IAEA for develop low enrichment uranium, it is interesting for analysis what is actually the interest of Russia government in cooperation with the IAEA in the form of low enrichment uranium.

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<sup>8</sup> Ibid.

## **B. Research Question**

From the background of the problem describe above, then the problem can describe as follows: “Why Russian government cooperate with the IAEA in the form of LEU reserve in Angarsk, Russia?”

## **C. Theoretical Framework**

### 1. Foreign Policy Decision Making Theory

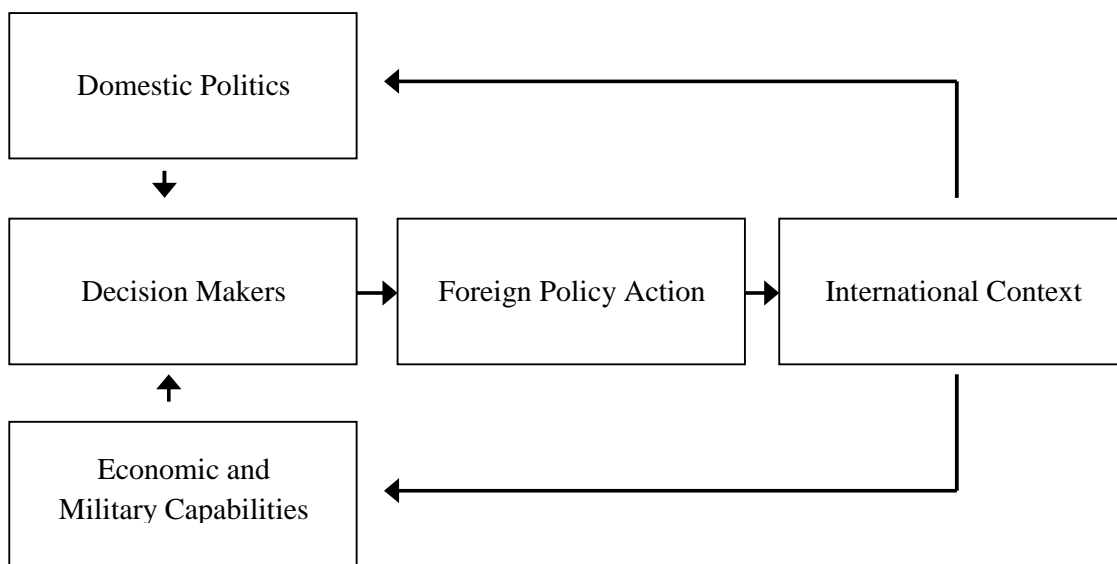
Interests and dependence on energy in each country make this energy factor can influence on foreign policy. This is important, because the energy used for production processes and consumption current and future. Foreign policy of a country associated with the energy short term and long term. A country's foreign policy will be addressed to the state or region that can supply the need for energy for the country concerned with the full consideration.

Because of that, the authors need to explain why the Russian government made the decision to cooperate with the IAEA in the form of low enrichment uranium in Angarsk. The author considers the decision-making model of abroad William D. Coplin appropriate to analyze the things that caused the decision was taken.

According to William D. Coplin;

“Foreign policy act may be viewed as the result of three broad categories of consideration. The first is domestic politics within the foreign policy decision maker's of the state. The second is the economic and military capability of his state. The third is international context the particular position in which his state finds”<sup>9</sup>

Figure 1.1 How the determinants influence the foreign policy action



*Foreign Policy Decision Making Process by William D.Coplin*

On cooperation between Russia and the IAEA in the field of energy, the president of Russia Dmitry Medvedev to make the initiative to establish cooperation

<sup>9</sup> William D Coplin, Introduction to International Politics: A Theoretical Overview, diterjemahkan oleh M.Marbun dengan judul buku Pengantar Politik Internasional: Suatu Telaah Teoritis (Bandung: CV. Sinar Baru,1992),h.30

with the IAEA regarding LEU Reserve taking into account the above factors in making foreign policy of which the following explanation:

a. Domestic Political Condition

In a political system and support the many demands that we can categorize as input, greatly affect the next steps in policy-making process. Inputs in the form of support and demands that would establish the political conditions of a country. Political conditions in this country that will greatly affect and influence decision-makers in making foreign policy. How the condition of the people against outstanding political issues, whether there is demand or support from the community itself. The condition of government in power at that time also affects the policies that will be created (output).

Government policy is influenced by the domestic politic russia plays an important role in policy making. The support of most elements of Russian society, especially among workers and employers from the industry for the policy pursued by the Russian government in order to establish cooperation with the IAEA as a way to shape the international uranium market in order to guarantee the stock of uranium as an initial step to avoid energy crisis happen in Russia .

b. Economy and Military Condition

Economic and military capabilities of a country are very influential on the policies to be taken, as it supports the policy defined by the government. Economy of a

country can be used as a benchmark for skills and bargaining position of countries in international relations. The amount of the state budget used to achieve national interests can also be used as a measure of state power to protect national interests. Economic and military capability is one of the country needs to ensure the realization of national interests. The better a country's economy and military will balance national interests with its capabilities.

Post-Soviet Union collapsed, Russia's economy collapsed with a lot of debt that must be paid. Russia became a bankrupt country. At that time the Russian government focused on economic recovery. Russia as a country only just made a militarily strong Russia is passive in international relations. In Vladimir Putin leadership, Russia can recover from its economic crisis through the oil and gas processing. However, since the energy crisis that hit Russia, the Russian government tried to find energy sources that can be used as an alternative energy source. When the energy runs out, Russia will have a major impact because of the prolonged economic crisis will hamper the energy crisis in the domestic industry and reduced state revenues from energy exports in terms that could make Russia a country that re-broke. Under these conditions, Russian governments establish cooperation with the IAEA in order to harmonize military and economic power in the enrichment of uranium to ensure the availability of energy stocks.



### c. International Context

Assessments of the behavior of a country are also focused on international contexts that influence it. The nature of the international system of relations between countries with the conditions in the system will determine how the country will make a policy. The situation in the country of the foreign policy goals as well as influences from other countries relevant to the problems faced is the consideration for the decision maker in determining the direction of foreign policy of a nation.

Special position of a country in relation to other countries in the international system greatly influence the attitude of what is embodied a state of the situation. Energy is essential for human survival. Energy crisis that was engulfing the world could make countries compete in getting the energy. In Russia itself is also facing an energy crisis due to oil and gas energy reserves at the beginning which Russia is a country of oil and gas energy exporter in the world have been thinned. Therefore, Russia will find a way for energy needs is still guaranteed. Moreover, energy can be regarded as the strength of the Russian state because many states depend on the Russia export energy. Therefore, when Russia experienced obstacles in developing nuclear energy, it could potentially destabilize the Russian state from all aspects such as politics, economy, and military.

Taking into account the factors above, Russia needs the IAEA as a partner in developing nuclear energy. The Russian government through the initiative of President

Dmitry Medvedev has cooperated with the IAEA, considering the political, economic and military conditions and international context.

## 2. Organization International Theory

Jack C. Plano in *International Relations dictionary* suggests that,

"International Organization is a formal arrangement transcending national boundaries that provides for the establishment of institutional machine to facilitate cooperation among members in the security, economic, social and related fields<sup>10</sup>."

In this international organization serves as a tool or means and media to communicate internationally. Thus the role of international organizations will be able to provide guidance to act in certain situations in an international environment. It could be argued also that the role of international organizations is the result of reaction of the international situation that occurred. The influence of the establishment of international organizations in the life of a country both in times of crisis and when the building is to improve the welfare of the nation, because the international organization has the objective to develop a political and national security on the one hand and economic development and social welfare on the other.

Two types at international organizations are active are IGO(public arrangements between two or more states) and NGO (private associations of individuals or group

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<sup>10</sup> Jack C.Plano and Roy Olton, *International Relations Dictionary*, (USA: Holt, Rinchart and Winston, Inc, 1969),p.288.

known). Public international organizations include global local arrangements like United Nations<sup>11</sup>. At present various forms of international cooperation in the form of organization has been widely applied to a wide range of interests in various aspects of life. One was an international cooperation is IAEA that has 151 members countries include Russia. IAEA works under control of the United Nations and based on Non-Proliferation Treaty. IAEA made to avoid a war that use nuclear as atomic bomb as in World War II. IAEA as International Governmental Organization (IGO) must ensure that member countries do not breach NPT which one of the contents of the NPT that member states may only use uranium for peaceful purposes because if one of its members violated the NPT, this can re-create the nuclear disarmament between countries and IAEA is party that blame for this condition.

In the development of LEU, Russia intends to sell the LEU to other countries for peaceful purposes of nuclear power plant. However, Russia as a member of the IAEA which want to sell LEU can not guarantee that the LEU are not misused by other countries to make atomic bombs. Therefore, Russia in cooperation with the IAEA in LEU possible to get legitimacy that make Russia could still exist to export energy to other countries which in this case Russia wanted to export uranium to a nuclear-material makers who need supervision of the IAEA in order not to violate the NPT if any state Other uses not sell uranium to Russia for nuclear power plant but for the atomic bomb.

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<sup>11</sup> Ibid

### 3. Partnership Concept

Cooperation is defined as transactions and interactions among countries in the international system are routine and almost free of conflict. Issues was arise various national, regional, or global which require the attention from many countries. In most cases, a number of government approach each other with the proposed settlement, or to negotiate or discuss the issue, conveying the technical evidence to approve a settlement or other, and an end to negotiations with a specific agreement or understanding that satisfy both parties. This process is called collaborative or cooperative.<sup>12</sup>

Cooperation can exist between two countries or more. Cooperation can also exist between countries and IGO or NGO. IAEA could categorize as IGO, a form of cooperation between the UN member states.. Cooperation that exists is the cooperation in economy, technology and security. In addition, there are also exchanges and cooperation in culture and education. Therefore, cooperation in the field of energy is an expansion of the cooperation that has existed.

In collaboration between the two countries will certainly involve the decision makers, respectively each country. The fundamental purpose as well as the most decisive factors that guide decision makers in formulating foreign policy is national interest. The national interest is the conception of a very common but it is the element that needs to be very vital for the country. Elements include the survival of the nation

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<sup>12</sup> K.J. Holsti, *Politik Internasional: Kerangka Untuk Analisis*, Jilid 2. (Jakarta: Erlangga,1983), h.209.

and state, freedom, the needs of the region, military security and economic prosperity. Since there is no single interest dominates the decision-making functions of government, then this conception can be more accurate if it is considered as the national interest. When a country's foreign policy based solely on national interests are strong with little or no bother at all to the universal moral principles, then the state can be expressed as a policy realist, as opposed to idealistic wisdom that international attention to moral principles.<sup>13</sup>

Meanwhile, according to Morgenthau in achieving its national interests is also necessary to national strength. National strength according to Morgenthau include: geography, natural resources, industrial capacity, military preparedness, population, national character, national morale, the quality of diplomacy and governance quality.<sup>14</sup> Therefore, good cooperation can be interpreted as a cooperative that is able to provide benefits or added value to each party a partner, in other words which could provide a win-win or mutual benefit each other for those who cooperate.

The form of Russia-IAEA cooperation are for develop nuclear. So, Russia and IAEA in cooperate about LEU reserve will get mutual benefit. The Russia maybe will get benefit for still exist develop uranium and sell it to others state. IAEA maybe will get benefit for more easily control the state that want use low enrichment uranium without need breach NPT. The proposal signed on 29 March 2010 for an agreement to

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<sup>13</sup> Jack. C Plano dan Roy Olton, Kamus Hubungan Internasional, Putra A Bardin, 1999, hal.7.

<sup>14</sup> H.J Morgenthau, Politik Antar Bangsa, direvisi oleh Kenneth W. Thompson, ed. V, buku 1, Yayasan Obor Indonesia, 1990, hal. 180-218.

establish a reserve of low enriched uranium (LEU) in Angarsk, Russia. The proposal divided into two parts. First part is Agreement between the Russian government and the IAEA and the second part contract between Rosatom authorized organization namely International Uranium Enrichment Centre (IUEC) and IAEA. The LEU reserve of 120 tones is valued at roughly USD \$ 250 million.

#### **D. Hypothesis**

Based on the conceptual framework and theoretical foundation of the above, then an initial conclusion that encourages the Russian government chose to work with IAEA within LEU Reserve in Angarsk, Russia namely;

First, the interests of the Russian government in cooperation with the IAEA is to get legality from IAEA for continue exist develop nuclear as electricity station in fulfill domestic and intenational demand during crisis of another energy resources.

Second, the interests of the Russian government in cooperation with the IAEA is to increase economic income by establish Joint Stock Company IUEC as uranium global market which selling uranium based on Russia law and IAEA safeguard..

#### **E. Purpose of Research**

The purpose of this undergraduate thesis with entitle “The Interests of the Russian Government in Cooperating with the IAEA in the Form of Low Enrichment

Uranium (LEU) Reserve in Angarsk, Russia” are to giving information and knowledge to the readers about cooperation that usually use in international relations scope. Usually, cooperation makes the party that cooperates get mutual benefit like the cooperation between Russia's government and IAEA in the form of low enrichment uranium reserve. Then the primary purpose of this undergraduate thesis is to complete the requirements to get a collage degree (S1) of the Science Studies Program International Relations, Faculty of Social and Political Science, University of Muhammadiyah Yogyakarta.

#### **F. Research Coverage**

In writing this research is necessary to limit the core or the subject. Restrictions intended to avoid ambiguity the meaning of the issues discussed and to avoid discussions that are too widespread so as to reduce the weight of scientific research.

Limitations in the writing of this manuscript is determined starting from the initial creation of the Russia-IAEA cooperation plan in the Russian proposal to the IAEA about "Statement on the Peaceful Use of Nuclear Energy" in February 2006 to the Russian proposal to the IAEA about LEU Reserve already approved in March 2010, which has produced LEU first reserve in the world as a tangible manifestation of cooperation between Russia and IAEA in the field of nuclear energy.

## **G. Methods of Research**

One research will run with the facts and systems of good methodology. Discussion of this review is qualitative and deductive method. Deductive method is a method that is based on a theoretical framework, drawn a hypothesis which will then be tested through empirical data or briefly review a general principle for the special problems.

The research method is to gather data or information which collect from various print media such as books, papers, newspapers, electronic media and also internet and documents that are relevant to the discussion on cooperation between the Russian governments with the IAEA in the development of LEU Reserve in Angarsk, Russia.

## **H. Systematic of Writing**

CHAPTER I: This chapter will describe about the background of problem, research question, the theoretical framework of ideas and hypotheses that related to the problems background. This chapter also mentions purpose of research, research coverage, methods of research and system of writing this undergraduate thesis to easily explain about the specific problems of this undergraduate thesis.

CHAPTER II: This chapter is to explain about the history of Russian nuclear, Rosatom, Russian uranium wealth, the contents of Russia's



proposals about low enrichment uranium reserves to the IAEA, and intergovernmental cooperation about the International Uranium Enrichment Center to explain the power of Russia in energy especially in energy nuclear and the process of Russia in develop and keep the uranium reserve.

CHAPTER III: This chapter will explain about IAEA(International Atomic Energy Agency) that explain about the IAEA's profile, the history of the founding of IAEA, tasks and program of IAEA, NPT (Non-Proliferation Treaty), IAEA role in NPT , the NPT bargains, and current challenges IAEA to know about the role of IAEA in safe nuclear energy in international world.

CHAPTER IV: This chapter will prove hypothesis in answering the problems with explain about the interest of russia government in cooperating with the IAEA in the form of Low Enrichment Uranium Reserve.

CHAPTER V: Conclusion