



# NUCLEAR SECURITY IN THE BRAZILIAN REALITY

## Authors

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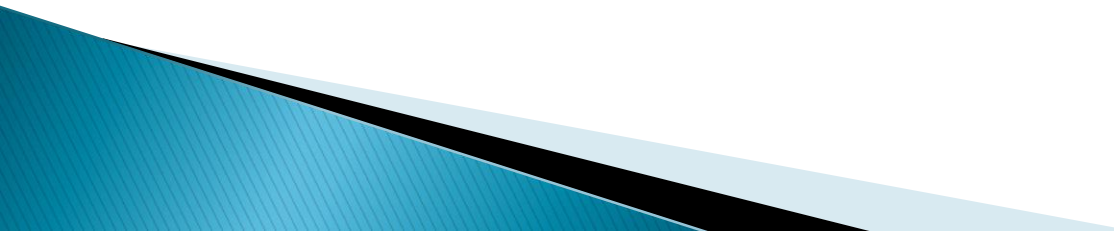
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# Background and Goal of the present work

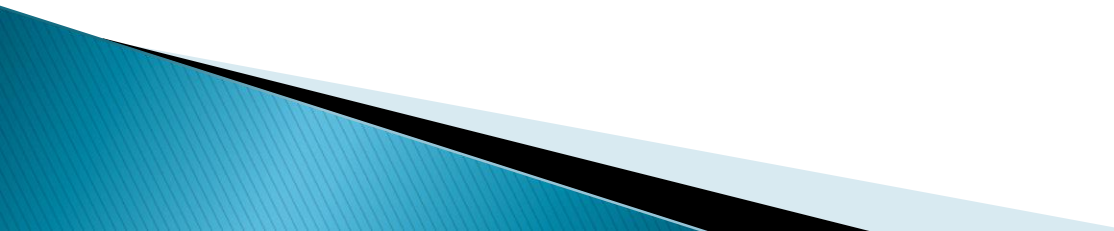
- ▶ This study gives an overview of the structure of Nuclear Security adapted to the reality and necessity of the Brazilian Society and presents two main objectives.




# Background and Goal of the present work

- ▶ The first highlights knowledge about events involving nuclear security and defines areas, possible risks and actions to prevent and detect different types of threats.
  - ▶ The second emphasizes Global Nuclear Security.
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# General View about Nuclear Security in Brazil

- ▶ In Brazil, as in other countries, nuclear security has been implemented following the guidelines of the standards and rules of the IAEA, in accordance with the Brazilian social reality.
  - ▶ In times of major events like the Olympic Games in Rio, a crisis committee managed and structured all safety procedures working in a cooperative way with professionals from other countries.
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# General View about Nuclear Security in Brazil

- ▶ Nowadays, around the world, a security structure that has never seen before was implemented at airports and in several points of circulation of the general public.
  - ▶ At the same direction, the use of metal detectors has become standard in sights, stadiums and sports arenas in various parts of the world. Monitoring by cameras has been enhanced with the installation of face recognition and various safety equipment was created.
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# General View about Nuclear Security in Brazil

- ▶ Despite not having a history of terrorist attacks and not be a potential target of extremist terrorism, Brazil has been preparing itself and advancing in knowledge of prevention and response procedures against any kind of threats.



# General View about Nuclear Security in Brazil

- ▶ Our country has continental dimensions with extensive borders in forest regions and a vast wealth of fauna, flora and mineral, requiring much effort in relation to their safety. Due to the growing international prominence, especially to host major events, it becomes even more evident the importance of cooperative work with national and international agencies, confronting and adapting to the reality of the society.



# Security Action in the Regulatory Area

- ▶ Of all industrial activities, nuclear generation is one that offers less risk. In 30 years of operation of the Nuclear Power Plants in Brazil (Angra 1 e 2), no accident records or event that might endanger the plant workers, the public or the environment of the region.





# Security Action in the Regulatory Area

- ▶ Security is a commitment that is crystallized in the Integrated Management Policy in Brazil. It is a priority and precedes productivity and economy and should never be compromised for any reason.



# Security Action in the Regulatory Area

- ▶ For dealing with a very powerful form of energy, safety of nuclear installations goes beyond the thick walls of steel and concrete that surround our reactors. Nuclear Security is an ongoing process that not only involves components and structures, but also people and organizations.
- ▶ Brazil's Institutions see security as one of the most relevant points of its organizational planning, guiding all activities. One of the major concepts used is that of defense in depth, i.e. the application of barriers in series, as an obstacle.

# Brazilian's View of Nuclear Security in the Not Regulatory Area.

- ▶ In Brazil, after the announcement of the choice of country to host the World Cup and the Olympics Games efforts and cooperative work arrangements have been proposed and structured in order to gather knowledge and experience to better compose the nuclear security framework.

# Defense and Prevention Strategy

- ▶ The first step to be taken in order to prevent terrorist attacks in major events is to spread the knowledge to the people of what is terrorism, how can it occur and what measures should be taken to prevent a possible attack. Thus, the population itself could contribute to preventing or minimizing the effects of any terrorist attack.



# Defense and Prevention Strategy

- ▶ The second step is the proper preparation of the multi-agency (Military Police, Civil Police, Fire, Navy, Air Force, Army and others) to operate safely or prevent a terrorist attack. Knowledge and practical measures to be taken to get the most alert and attention as the suspects is an example of part of that preparation.



# Defense and Prevention Strategy

- ▶ The third step to take in order to minimize the damage of an attack is the preparation of the multi-agency to operate together with the organizers, volunteers, associations in question, since the isolated action of these parties do not would optimize the solution of the problem and even failures could occur, slowing the process.
- ▶ Numerous events, such as sporting events that bring together delegations from various countries, are particularly sensitive targets for an attack of terrorist groups and such actions have occurred frequently in the past 42 years. About 200 attacks or attempted attacks related to the sport occurred in that period.

# Defense in Deph

- ▶ After the bombing of the American Twin Towers, the world entered a state of alert of the danger of terrorist attacks, and so many countries have changed their defense and prevention strategies against terrorists in big events. Brazil is an example of this.
- ▶ It is in evidence since it hosted the World Cup and will be the Olympic Games. The Brazilian government has invested around 1.16 billion reais in security for the World Cup and this value is expected to reach two billion by the Olympics.

# Defense in Deph

- ▶ The Brazilian Defense Strategy has included the interception of a possible attack by early detection. In the stadiums, many cameras were installed, and several plainclothes police also was infiltrated. A central detection was installed at the entrances of spectators having cars for a checking with X-ray and scanner.
- ▶ The central World Cup control counted four security levels at: centrally at each stage ten mobile stations around the stadium, a regional center in each host city and two national centers, one in Brasilia and another in Rio de January.



# Conclusion

- ▶ The importance and scope of nuclear security have been disclosed in the international community as the future of the nuclear area.
- ▶ Throughout this work, it was possible to present a little about Nuclear Security in the Brazilian reality, presenting the main concerns and the risks eminent to the reality of Brazil, separately describing the Regulatory Area, the Non Regulatory Area and Institutional Cooperation, emphasizing the different situations in which it operates and the inherent challenges.