

Abstract submission form

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Abstract information

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A Study on the REPP for DVP in Nuclear Disaster Situation

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Abstract

Despite the continuing improvement of the radiological emergency preparedness plan (REPP) after the Fukushima nuclear accident, increase in “Disaster Vulnerable Population” (DVP) due to the transition to aging society renders the preparedness for nuclear disasters more difficult. According to the analytical results, major issues of REPP include inconsistency in the range of emergency planning zone (EPZ) between local governments, lack of cooperation, lack of budget for radiation emergency preparedness, and the effectiveness of resident evacuation plan and education and/or training on radiation emergency preparedness. Furthermore, there is a lack of consideration for DVP in the preparation, response, and recovery processes for nuclear disasters. Considering the increase in DVP in the future, the REPP should be supplemented in terms of the resident evacuation plan, education and training on radiation emergency preparedness, preparation of shelters and relief supplies, and preparedness for the prolongation of a nuclear disaster. This study analyzes the current status and major issues of REPP and then it proposes the improvement direction for REPP, focusing on DVP protection measures. This study aims to seek the improvement direction of REPP after dividing the differentiated measures for DVP into physical, cognitive, psychological, and socioeconomic aspects. However, the scope of review was limited to the differentiated measures for DVP that mainly focused on elderly people. First, some have argued that the different ranges of EPZs depending on the region should be unified and expanded to an NPP radius of 30 km. The current EPZ is controversial because the ranges depend on the local government based on the same nuclear power plant. Second, the necessity for a municipal-level REPP has been raised, based on cooperation between local governments. To establish a more effective REPP, there are many evaluations that the independent REPP of each local government is insufficient. Third, many argue that the staff and the related budgets in local governments are insufficient in performing radiation emergency preparedness tasks. Fourth, questions have been posed about the effectiveness of REPP including resident evacuation plan, and education and training on radiation emergency preparedness. Fifth, there are many criticisms that the education and training on radiation emergency preparedness are not effective. To solve these problems, the following solutions are needed. First, it is necessary to openly discuss various simulations on disaster occurrence and evacuation while considering further expansion of the EPZ. Second, in consideration of DVP, the resident evacuation plan should be developed in more detail. Third, it is necessary to strengthen the education and training program on radiation emergency preparedness in consideration of DVP, and further increase the related staff and budget. Fourth, considering the increase in DVP, it is necessary to prepare appropriate shelters and relief supplies. Finally, if a nuclear disaster occurs, the long-term migration plan as well as the return plan should be reviewed. Only six years after the Fukushima nuclear accident, attempts have been made to dismantle the evacuation zone, while only 10% of the evacuees are reporting their intention to return. Nuclear facilities in South Korea are concentrated near large cities, the situation would become even worse if nuclear disasters occur. Thus, it is necessary to review the long-term evacuation residence plan as well as the criteria of return. The current REPP does not sufficiently consider the prolongation of the disaster. In the future, plans should be created for temporary residence facilities while the plan should include the common space that can promote community activities by the principle of barrier-free design.

REFERENCES

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