

Conservative assessment

- Based on assumptions that would not lead to underestimation of exposure doses based on uncertain information (conservative assumptions), exposure doses and health risks are assessed on the safe side for emergency measures immediately after a nuclear disaster.
- As a result of conservative assessment, calculated values will be larger than the actual exposure doses.
- Risk assessment based on the calculated values will result in overestimation of health effects.

Realistic assessment

In the recovery period after a nuclear hazard, current exposure doses and possible future health effects are to be assessed based on assumptions as close as possible to the reality, using all information and measurement data available at that point in time.

In taking emergency measures immediately after a nuclear disaster, exposure doses and health risks are often overestimated from the perspective of mitigating health effects that may be caused by radiation exposure to the extent possible.

In other words, risks are assessed conservatively on the safe side to avoid underestimation. Such conservative assessment is considered to be effective in avoiding the worst situation that may happen. On the other hand, in the recovery period after the completion of emergency measures, exposure situations are to be ascertained more realistically by reflecting on the accident based on fragmentary information and measurement data, and the possibility of health effects into the future are assessed in more detail.

The WHO Report on health risk assessment provisionally calculated health risks based on doses calculated conservatively with limited information and under conservative assumptions. As a result, its risk assessment provided the upper limit but resulted in overestimation as a whole.

The UNSCEAR Report intended to assess exposure levels and radiation risks due to the accident as realistically as possible as of the time when sufficient information was obtained. However, it states that the assessment still contains uncertainties due to the limitations in actual data. For example, there are uncertainties concerning measurement levels of radionuclides deposited on the ground surface and the assumption of radioactivity concentrations in foods. Due to such uncertainties, dose assessment in the UNSCEAR Report is indicated as being likely to be overestimated or underestimated depending on the circumstances.

Included in this reference material on March 31, 2015

Updated on February 28, 2018