

Vink, Fusion power

O. Necessary Elements (The paper cannot pass if these elements are not present):

- a. Are the citations complete and accurate? Yes.
- b. Is the report created and written independently from all other student reports? Yes.
- c. Is the organization of the report clear and logical? Yes.
- d. Is the writing free of easily avoidable mistakes? Yes.
- e. Do student name, topic and word count appear on a cover sheet? Yes.
- f. Are there no more than two figures in the text of the report? Yes.

I. Scope of the Risk Assessment (20%) 1,7

- a. Is the target of the risk assessment described sufficiently? Yes, although the description of tritium as “extremely radioactive” is exaggerated, relative to other radioactive substances.
- b. Are the reasons for carrying out a risk assessment sufficient, and have they been articulated clearly? Reasons are given, but the argument for doing a risk analysis should be more explicit.
- c. Is the risk assessment delimited in such a way that meaningful assessment and evaluation can be conducted? Yes.

II. Assessment Methodology and Process (20%) 1,7

- a. Has a clear method been identified for finding new evidence about risks? Yes, the description of the methods is very clear and thorough.
- b. Have the advantages and disadvantages of the chosen method been discussed explicitly, and are the advantages sufficient to justify using the method? Some aspects of the quality of research sources are discussed.
- c. Has the student’s application of the method been described? Yes.

III. Assessment Results and Validity (20%) 1,7

- a. Have the results of the assessment been described clearly and completely, including information gathered about identification of risk scenarios, their likelihood, and the magnitude of danger they pose? Causal pathways between fusion and health harms, and between fusion power and electric grid failure, are discussed as primary risk scenarios. The probability is judged as low, and the extent of damage is estimated. These sections are excellent.
- b. Has it been explained where the results of the assessment are incomplete or inadequate, leaving uncertainties? The results are described as ambiguous at the beginning of section 4.0. Ambiguity is a social aspect of risk perception, however, and is different from uncertainty.

IV. Risk Evaluation (20%) 1,6

- a. Have the risks been characterized qualitatively in terms of ethical, psychological, sociological, and/or political risk concepts (e.g., benefits of the technology, ambiguity, complexity, uncertainty, voluntariness, equity, etc.)? Evaluative characteristics are highlighted during the risk assessment.
- b. Have the risks been evaluated in terms of the traffic light model, explaining what this means? Yes.

V. Response Strategy (20%) 1,8

- a. Have the technological means of addressing the risk been discussed, if appropriate? Yes.
- b. Have any other elements of the response strategy been discussed, if appropriate? Yes, other governance measures, education. This is a strong point of the report.
- c. Does the management/ design/ communication strategy emerge from and fit with the outcome of the risk assessment and evaluation? Yes.
- d. Is the response strategy feasible? Yes.

Overall grade: 8,5

Overall comments: This paper shows a thorough grasp of risk analysis theory and presents a solid case for its conclusions and recommendations.