Phys 280 RE2v1 rubric: **No hard copy submitted: -5 No writer’s memo: -10 RE2v1 submitted late: -15**

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| **Features**: | **Description:** | **Range**: | **Comments on student paper for each feature (noting problems and strengths)**: |
| **Coverage of issues and information** | Sufficiently answers the following:   1. What is the definition of a fissionable, fissile, and fertile nuclide? List an example of a fissile, a fissionable but not fissile, and a fertile nuclide. 2. What is the definition of a nuclear-explosive nuclide, and a nuclear-explosive material? Are all fissile nuclides nuclear-explosive nuclides? Explain why some nuclides that are not fissile are nuclear-explosive. List an example of an important nuclear-explosive nuclide that is not fissile. 3. Explain in one or two paragraphs the basic, general requirements for achieving a nuclear explosion using nuclear explosive material. *Do not go into any of the details of particular weapon designs.* ( ⅓ of paper) 4. Explain in one paragraph why the energy released in a nuclear explosion is much greater than the energy released in the explosion of a conventional bomb. In a separate paragraph illustrating the magnitude of energy release of a nuclear explosion, suggest a concrete scenario for the use of a nuclear weapon in the ongoing war effort (World War II). | 20%  **High**  **Mid**  **Low** |  |
| **Precise and accurate use of concepts** | Accurate, clear definitions of:  - fissile, fissionable and fertile  - NEM, NEN  Accurate explanation of:  -nuclear explosion  -energy release greater than conventional bomb | 15%  **High**  **Mid**  **Low** |  |
| **Explanation & argument** | Suggests a use for nuclear weapons, but does not forward personal opinion.  Explains why nuclear explosions are greater than conventional.  Suggested military application is realistic. | 10%  **High**  **Mid**  **Low** |  |
| **Professional style** | Geared toward college-educated member of congress.  Congruent with Congressional Research Service report style. Language (word choice, sentence structure, flow of information etc.) is precise and straightforward, attending to:  Concision  Clarity  Brevity  Professional tone  Organization  Comprehensive and thoughtful use of sources (need both NEM and Slides).  - Source info clearly cited.  - Uses a mixture of quotation, paraphrase, and summary. | 20%  **High**  **Mid**  **Low** |  |
| **Conformity to conventions** | 2 pages  Title and section headings specified in prompt  Header and date in correct format  Page numbers  12-point Times New Roman font throughout, including page numbers (except if specified in prompt)  1.25" side margins and 1" top margins and .5" bottom margins.  Citation practices specified in prompt.  Key terms bolded in first use  (√ = all correct, X = some mistakes (-10), XX = no conformity (-15) )  \*\*If you can't find the error, come to office hours! | 15% |  |
| **Copy editing and use of standard language** | Grammar and mechanics are edited for correctness and legibility. | 10%  **High**  **Low** |  |
| **Peer Review** | 2% for each writer's memo question answered and/or for each substantial comment | 10% |  |
| **Overall Comments:** | | | |