| NGSS PE | ORSS | Content | Practice | CCC | Notes on Alignment |
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| HS-ETS1 Engineering Design | | | | | |
| HS-ETS1-1.  Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants. | H.4D.1  H.4D.3 | S  P/N | P/N  P/N | P  P | Awareness of cognitive verb: NGSS is asking for higher Bloom’s Taxonomy. NGSS is global. Overlap with H.3E.4. New = global problem is more contextualized. (Ref NGSS pg 291.) |
| HS-ETS1-2.  Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. | H.4D.2  H.4D.4  H.4D.6 | P  P  P | P  P  P |  | “…through engineering” is vague in lieu of critical thinking designing solutions. There is potential here for a strong reinforcement for all three ORSS. |
| HS-ETS1-3.  Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts. | H.4D.1  H.4D.3  H.4D.4  H.4D.5  H.4D.6 | P  P  S  P  S | P  N  S  W  S | P  P  S  P  P | All 3 ORSS are strong correlation with ETS1-3. Should include economic impacts/resiliency/sustainability. |
| HS-ETS1-4.  Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem. | H.4D.1  H.4D.3  H.4D.4 | P  P  P | N  N  N | P  P  P | ORSS are loosely tied to modeling but not explicitly stated. |
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| The following ORSS are not aligned to any NGSS: | | | | | |
| H.4D.5 Describe how new technologies enable new lines of scientific inquiry and are largely responsible for changes in how people live and work. | | | | | |