The heat characterization of the system was defined using the following equations:

The following assumptions were made based off information provided by the ThorCon reactor model, and preliminary analysis.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Mass Flow (C) | Cp (C) | (C) | (C) |
| SHX | 1229 | 4.184 | 344 | 538 |

Due to temperature dependent phase changes, enthalpy needs to be taken into account in order to provide consistent heat measurements. The heat exchanger that connects the secondary system to the Nuclear Power Plant was characterized as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Mass Flow (C) | Cp (C) | (C ) | ( C) |
| HX | 1000 | 1.97 | 520 | 25 |

**Hydrogen Production**

The minimum Q value for the secondary process was defined considering the following information:

Amount of hydrogen produced per year in the world: 50 million metric tons

Amount of hydrogen produced per year in the US: 11 million metric tons

Average amount of hydrogen produced per plant, per day: 1000 kg