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(54) Title: OSMOTIC HEAT ENGINE

(57) Abstract: A method of converting thermal energy into mechanical work that uses a semi- permeable membrane to convert osmotic pressure into electrical power. A closed cycle pressure-retarded osmosis (PRO) process known as an osmotic heat engine (OHE) uses a concentrated ammonia-carbon dioxide draw solution to create high osmotic pressures which generate water flux through a semi-permeable membrane against a hydraulic pressure gradient. The depressurization of the increased draw solution volume in a turbine produces electrical power. The process is maintained in steady state operation through the separation of the diluted draw solution into a re-concentrated draw solution and deionized water working fluid, both for reuse in the osmotic heat engine.