ZENIT / NORAK QAC-1 + MARAK QAC-2

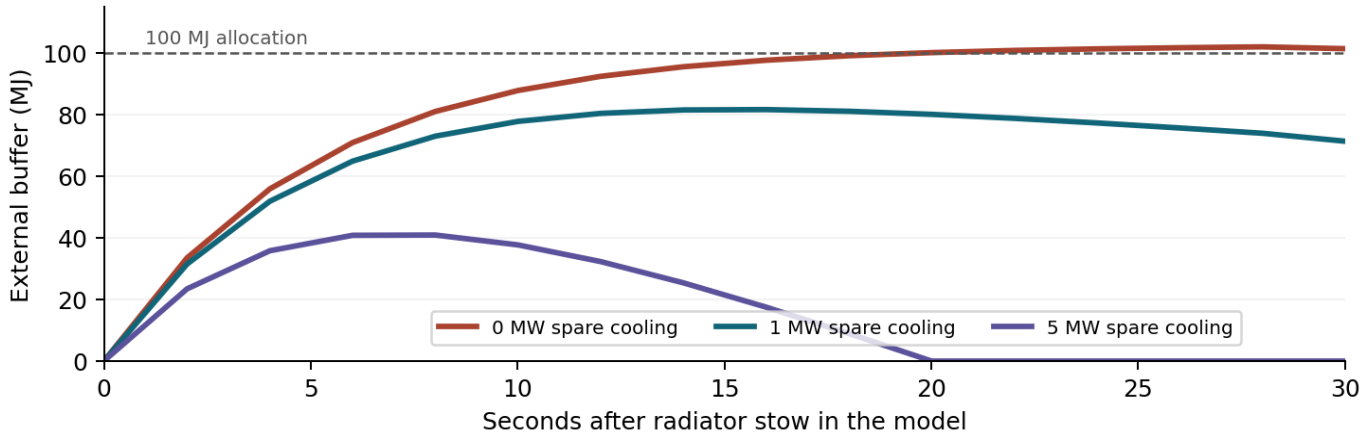
KETS at the return to Earth

At the end of the modeled space pulse, 100.82 MJ per wing still sits in the converter. The question for descent is how to carry away that heat after the space radiators stow.

KETS AFTERBURN / UNSOLVED

Heat carried into entry

The saved R2 JavaScript ran its 17 reference checks. Three additional runs assumed radiator stow at the end of its 180-second pulse and a 30-second gap before full reference cooling resumed. Entry and ship-service heat must already be deducted from the spare cooling shown.



0 MW spare fills the initially empty 100 MJ buffer after 20.07 s and requires 102.07 MJ by 30 s. **1 MW spare** reduces the peak to 81.56 MJ. **5 MW spare** reduces it to 41.31 MJ. All values are per wing. These are assumed cooling cases for a single gap.

Proposed cruiser configuration

Space. The R2 model gives 99.91 MW of nominal electrical gain per wing. Afterburn remains unsolved for both cruisers until a matched KETS-on and KETS-bypassed comparison shows a measurable increase in MAGTRANS thrust. Descent planning credits zero extra thrust from KETS.

Return. Bypass particle diversion for atmospheric flight. Keep coolant circulation powered independently through handover. Its assumed 50 kW load takes 1.50 MJ of electricity over 30 s per wing, before electrical losses. Count that pump heat in the buffer balance, as R2 does.

Landing. Use the Earth Mode FAP and wing-borne return as the baseline. Establish available thrust and go-around capability separately for survey-loaded Norak and for Marak with its cargo and patient-transfer loads. Neither cruiser has a measured KETS thrust increment in the reviewed records.

Assumptions and verification

Five-second converter heat-release time, zero fresh diversion after pulse end, and no entry heat assigned to the initially empty study buffer. Time steps of 0.05 s and 0.01 s agree within 0.001 MJ on peak buffer demand. Actual thermal capacity, heat-transfer rate, sink availability and vessel-specific loads remain open.