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|  | ***HDR Prostate Brachytherapy Reference Cases*** |  |
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Please calculate and attach isodose distributions for the single source position and geometric implant described below. Do the calculations as you would do them clinically, detailing any assumptions necessary.

**Case 1:** A single source position, normalized to deliver 1 Gy to a point 1 cm away from the center of the source on an axis perpendicular to the source axis. Calculate the dose distribution in both the longitudinal and mid-transverse planes of the source, and submit the source activity and the dwell time. Please submit percent isodose lines from 200% to 20%. (Lines 200, 150, 100, 75, 50 &

20% are preferred.)

# Dosimetry Calculations:

Write below the equation that will be used for hand calculating the instantaneous dose-rate to an arbitrary point from a single source position. (If possible give notations used by your treatment planning computer). The intent is for you to be able to verify the values of various parameters in your treatment planning system.

Define the variables in the equation: