Algorithm 1 Sphere-Radial Node Generation

Define: Origin (crane base position)
Collect critical points:
- Start/end positions
- Obstacle vertices expanded by safety margin

for each critical point **do**
    Calculate radial distance from origin
    Create virtual sphere at calculated radius
    Cast radial rays to sphere surface
Generate `cNode` objects at ray-sphere intersections:
- `layer_id` = radial distance tier
- `ray_id` = angular direction identifier
- `world_position` = 3D coordinates

Prune nodes colliding with obstacles