

Proposal: Project 'Backyard Fusion' - Small Modular Reactor (SMR) Concept & Feasibility Study

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Prepared For: Mayor Agnes Miller, Township of Glimmerwood

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1. Introduction:

This proposal outlines the professional services to be provided by Quantum Leap Engineering Partners ("Quantum Leap") to the Township of Glimmerwood ("Glimmerwood"). The objective of this engagement is to support Glimmerwood in developing a preliminary feasibility study and a conceptual implementation plan for a pilot Small Modular Reactor (SMR), tentatively named "Project 'Backyard Fusion'."

This initiative aims to leverage Quantum Leap's proprietary 'Micro-Isotope Containment (MIC)'™ design framework and Glimmerwood's strategic desire for energy independence. Key deliverables will include a comprehensive Conceptual SMR Blueprint (designed to support internal budget and resource planning), an executive presentation, and ongoing advisory support throughout the pilot phase. The project is anticipated to run from November 2025 to the end of January 2026. This collaboration offers a significant opportunity for Glimmerwood to enhance its operational self-sufficiency, demystify nuclear energy for its residents, and establish a sustainable, high-impact internal center of excellence.

2. Background and Context

Decentralized energy grids and next-generation power sources are fundamentally reshaping municipal planning. The Township of Glimmerwood is strategically positioned to leverage these tools for significant gains in energy sovereignty and operational cost reduction. However, the primary challenge is not technological possibility but public adoption and the identification of a suitable site that doesn't conflict with the annual pumpkin festival.

There is a strong desire from Glimmerwood's leadership to move beyond "panicked reactions" to fluctuating utility bills and instead build a proactive, internal capability. Establishing "Project 'Backyard Fusion'" presents a unique opportunity to cultivate internal champions, inform practical energy strategy, and build a leading model for micro-grid adoption in the region.

3. Project Goals

The primary and secondary objectives for this engagement are:

- **Primary Objective:** To develop a comprehensive, conceptual SMR Blueprint and deliver a pilot briefing series for the successful establishment of the "Glimmerwood Nuclear Oversight Committee."

- **Secondary Objectives:**

- To assist in establishing a sustainable, internal monitoring model managed by the "Oversight Committee."
- To help develop a simple, non-technical framework for evaluating and prioritizing energy use cases proposed by residents (e.g., "powering the town-square fountain 24/7").

4. Scope of Services & Methodology

To achieve the stated objectives, the services will be delivered through a phased approach:

Phase 1: Discovery & Site-Suitability 'Vibe Check' (Target Completion: Mid-December 2025)

- Conducting background research on Glimmerwood's current energy consumption, geological stability (via Google Maps), and internal communication channels.
- Reviewing "off-the-shelf" SMR designs to establish a baseline for customization (and why they are needlessly expensive).
- Undertaking confidential "Nuclear Anxiety" surveys and structured focus groups with key departments (e.g., Public Works, Parks & Rec, Town Council) to identify key concerns and opportunities.
- Interviewing key leadership and the town's IT manager to align on strategic priorities.

Phase 2: Framework & Containment Design (Target Completion: Mid-January 2026)

- Performing a deep-dive customization of the 'MIC™' Framework for a semi-rural context (e.g., advanced physics modeling via back-of-napkin diagrams).
- Conducting an assessment of Glimmerwood's internal requirements for the Committee (e.g., selection criteria, time allocation, governance, key-keeper).
- Developing role-specific briefing modules (e.g., "Nuclear 101 for Mayors," "What's Fission? for the Parks Team," "Safety Protocols for Town Council").
- Designing the "Glimmerwood Nuclear Oversight Committee" charter, selection process, and initial 6-month mandate.

Phase 3: Pilot Briefing & Blueprint Finalization (Target Completion: End of January 2026)

- Delivering the pilot "Nuclear 101" and "Don't Touch That: A Guide to Buttons" workshops to the selected "Oversight Committee" cohort.
- Developing a 12-month operational budget (mostly for snacks and lead-lined clipboards) and a simple ROI tracking metric (e.g., "Glow-Watts Generated").
- Identifying and vetting potential internal champions and a shortlist of external tool vendors (e.g., geiger-counter suppliers) for future consideration.
- Consolidating all findings and materials into the final Conceptual SMR Blueprint.

5. Key Deliverables

Upon completion of this engagement, the following key deliverables will be provided to

Glimmerwood:

1. **Conceptual SMR Blueprint:** This report will include:
 - A "Current State" assessment of energy literacy and sentiment in Glimmerwood.
 - A detailed, role-based briefing curriculum and content for town staff.
 - A detailed operational roadmap for founding, launching, and scaling the "Nuclear Oversight Committee."
 - A 12-month training budget and simple ROI/KPI tracking metrics. This section will be structured to be useful for internal budget approval.
 - A risk assessment and "What Not To Do" guide (e.g., Data Privacy, Using Plutonium for Doorstops, Spontaneous Fission Fridays).
 - An outline of key internal champions and a strategy for ongoing engagement.
2. **Executive Presentation:** A presentation (slide deck) summarizing the key findings from the discovery phase, the rollout plan for the briefing program, and a decision framework for the "Oversight Committee's" first-year priorities (e.g., choosing a mascot).
3. **Ongoing Advisory Support (During Project Term):**
 - Strategic guidance on internal communications and resident engagement strategy.
 - Support during the selection and kickoff of the first "Oversight Committee" cohort.

6. Project Timeline

- **Project Start Date:** November 1, 2025
- **Project Completion Date:** January 31, 2026
- **Key Milestones:**
 - Discovery & Site 'Vibe Check' Completion: December 15, 2025
 - Framework & Containment Design Completion: January 15, 2026
 - Final Deliverables (Blueprint & Executive Presentation): January 31, 2026
- Regular check-ins with the Mayor's Office will be scheduled weekly.

7. Professional Fees

The total professional fee for the services outlined in this proposal is **\$45,000 CAD, plus Harmonized Sales Tax (HST)**.

- **Payment Schedule:**
 - 30% (\$13,500 CAD + HST): Payable upon acceptance of this proposal and commencement of work.
 - 40% (\$18,000 CAD + HST): Payable upon completion of Phase 2 (Framework & Containment Design).
 - 30% (\$13,500 CAD + HST): Payable upon delivery of the final Conceptual SMR Blueprint and Executive Presentation.
- **Expenses:** In addition to the professional fees, agreed-upon out-of-pocket expenses, primarily related to on-site workshop facilitation (e.g., travel, printing of materials), will be reimbursed at cost. Any travel will be discussed and approved in advance with Glimmerwood.

8. Travel and Logistics

- **Site Visits:** Potential travel to Glimmerwood Town Hall and the proposed main reactor site (the duck pond behind Town Hall) for focus groups and pilot workshops.
- **Primary Work Mode:** Work will be conducted through a hybrid model of virtual collaboration (video conferencing, email, shared documents) and 2-3 on-site workshop days.
- **Client Liaison:** Regular communication and progress updates will be maintained with the Mayor's Office.

9. Guiding Principles & Conditions

- **Client Focus:** Services will be conducted with the primary objective of serving the best interests of the Township of Glimmerwood.
- **Objectivity:** All analysis and recommendations will be developed with professional objectivity and based on thorough research and assessment.
- **Confidentiality:** All information shared by Glimmerwood or its employees during this engagement will be treated with the strictest confidence and will not be disclosed to third parties without prior written consent.
- **Access and Cooperation:** Timely access to relevant personnel, information, and resources from Glimmerwood will be crucial for the successful and timely completion of this project. Glimmerwood will facilitate introductions and access to stakeholders across relevant departments.
- **Client Decision-Making:** Glimmerwood retains the sole right and responsibility for all decisions regarding the establishment of the "Nuclear Oversight Committee," briefing rollout, and implementation of any recommendations provided.
- **Scope Adherence:** The services provided are limited to those outlined in this proposal. Any additional services or significant deviations from this scope will require a separate written agreement and may be subject to additional fees.

10. Constraints and Considerations

- The consultant will not provide legally binding engineering or physics calculations. All recommendations are conceptual and provided for consideration by Glimmerwood's legal and (future) engineering counsel.
- Recommendations on specific fissile materials or reactor components will be advisory only and based on public information. The final procurement decisions and vendor due diligence rest with Glimmerwood.
- The primary focus of this engagement is on employee enablement and internal capability-building, not the direct development, assembly, or operation of a nuclear device.