

NFE Checkin - August 8th 2026

Date: 8 August 2026

Attendees: Aaron Tushabe, Dansturn Kimbowa, Hillary Arinda

Duration: ~2 hours 5 minutes

1. Nansana Pilot & Battery Backup

The Nansana battery backup system is now live and billing has proceeded without major issues. Initial operation indicates a significant reliability improvement, particularly during the daytime. During outages, the batteries have generally supported the site for approximately 1-1.5 hours under heavier evening loads, and substantially longer when customers reduce high-consumption appliances.

A useful behavior has also emerged organically: residents notify each other when the site has switched to battery and encourage reduced consumption. The team agreed this should eventually be automated so customers are notified when they switch to backup power. This would both help extend battery runtime and make the reliability value of the NFE service more visible to customers.

The telemetry stack is not yet sufficiently stable to accurately measure and report outage duration, battery behavior and reliability over time. The immediate priority is therefore to stabilize telemetry and establish a reliable baseline before experimenting extensively with battery operating strategies.

Battery Optimization

The current battery configuration primarily preserves stored energy for outages. The team discussed experimenting with **time-of-use arbitrage**, where batteries charge during cheaper off-peak periods and discharge during peak tariff periods while maintaining a minimum reserve for outages.

One possible configuration discussed was allowing discharge to approximately 50% during peak periods before reverting to grid supply. These experiments should only begin once telemetry is stable enough to compare their impact on both reliability and margins.

2. OpenEMS Migration & Q3 Technical Priorities

The Q3 development objective remains to consolidate both **metering and battery monitoring onto OpenEMS**, creating a common technology stack for future deployments. Once the OpenEMS metering integration and automated billing flow are stable, NFE should have a more commercially scalable sub-metering platform.

Progress has been made integrating the inverter, although discrepancies between available documentation and the installed inverter firmware have required experimentation. The target is to resolve the outstanding inverter integration issues during the coming week.

The team also discussed configuration management within OpenEMS. For Q3, the current configuration-file/Felix UI approach will continue rather than building a new management interface. Building a separate interface was considered outside the current Q3 scope.

Some technical questions remain around:

- How OpenEMS writes configuration changes through to inverter registers.
- Whether charging windows can be changed through the currently exposed registers.
- How future automated optimization software would dynamically modify inverter settings.
- Whether some historical meter data needs to be backfilled into the new stack.

Historical backfilling was considered secondary to getting current data flowing correctly into OpenEMS.

3. Billing, Service Charge & Economics

The team reviewed the economics of the Nansana site. It is still too early to determine whether battery installation has materially improved margins because:

- there has not yet been a full operating month;
- the initial battery charging introduced additional consumption;
- electricity tariffs changed during the period; and
- the NFE service charge was also adjusted.

The reliability improvement is already more apparent than the profitability impact.

The discussion highlighted the need for a more rigorous model for determining the appropriate monthly service charge. Future pricing should reflect both:

1. the value of improved reliability delivered to customers; and
2. NFE's actual operating and maintenance costs.

The existing service-charge adjustment was acknowledged as a reasonable pilot decision rather than a fully cost-derived commercial price.

4. Battery Funder / Data Sharing

The battery funder is aware that the backup system has been installed and has indicated willingness to potentially contribute an additional small amount toward installation costs. Aaron has a follow-up meeting scheduled for Monday to provide an update and review the roadmap.

The original arrangement requires NFE to share operational data. The team agreed there is no need to make historical data migration a blocker. Existing spreadsheet records can be shared for earlier periods, while newer telemetry can be exported from the current database/OpenEMS stack.

5. Analytics Layer / AI-native Operations

The current system collects telemetry into InfluxDB, but NFE does not yet have a defined analytics layer.

The team revisited the broader Microgrid OS architecture and discussed potentially avoiding a dashboard-heavy analytics approach. One promising direction is an **LLM-powered operational analytics interface** sitting over the telemetry data, potentially using MCP or a similar interface to allow users to ask questions such as:

- Which outages lasted longer than three hours this week?
- What is the site's reliability trend?
- How has a particular battery configuration affected consumption or uptime?

The analytics architecture should be revisited as part of future/Q4 Microgrid OS planning.

6. Nairobi Workshop — Generation 3 Hardware

The Nairobi workshop is proceeding, with **three sponsored participation slots** currently available.

The team clarified that the objective should not simply be to attend or observe the workshop. The explicit goal is to leave Nairobi with a pathway toward **Generation 3 of the NFE microgrid/sub-metering stack**.

The generations were framed as:

Generation 1

- Proprietary hardware.
- Proprietary software.
- Imported equipment.
- Higher equipment and licensing costs.

Generation 2

- Locally available but still proprietary meters/hardware.
- Open-source software through OpenEMS.
- Lower hardware cost and reduced software lock-in.

Generation 3

- Open hardware that NFE can assemble locally.
- Open-source firmware/software.
- Components that can be repaired or replaced individually.
- Greater control of the full stack.
- Significantly lower per-customer hardware costs.

A preliminary BOQ discussed during the meeting suggested an equipment cost of roughly **US\$64 per customer** for the workshop hardware configuration, although this still needs validation.

The team acknowledged that moving the workshop prototype into a production-grade NFE system will require additional engineering, testing, enclosure/assembly work and software integration.

7. UNBS Certification

A key open issue for Generation 3 hardware is regulatory approval.

Once NFE begins assembling its own metering hardware and using it for customer billing, **UNBS certification/calibration requirements** will become important. The team needs clarity on:

- the applicable certification process;
- costs;
- testing/calibration requirements;
- documentation required; and
- whether certification applies to the complete assembled PDU, individual meters, or both.

This will determine whether the open-hardware approach remains economically attractive relative to using already-certified commercial meters.

8. Customer Pipeline

Chanjala / Three-phase Connection

The outstanding issue remains the three-phase supply/meter installation. UMEME appears ready to install once the required meter payment and outstanding site-side issues are addressed.

The team discussed proceeding with the meter installation while treating any problems with the customer's internal/network infrastructure separately.

Dansturn Home Installation

Dansturn would like NFE monitoring installed at his home so that he can better understand his electricity consumption.

This is also considered a useful test environment because it provides the engineering team with a site that is easier to access than Nansana. The same installation can help refine the product before installing for Edward and other individual customers.

Target discussed: **Monday/Tuesday during the coming week**, subject to technician availability.

9. Target Customer Strategy

The team revisited whether NFE should prioritize new construction or existing sites.

The conclusion was that existing developments with:

- active electricity consumption;
- meaningful numbers of customers; and
- an immediate reliability problem

remain the more attractive near-term market.

New developments can still be considered where the developer bears the upfront metering/infrastructure cost, but NFE should avoid tying up its own capital for years waiting for occupancy and consumption to ramp up.

10. Conferences & Industry Engagement

Nairobi

NFE currently has three sponsored passes and expects to send the founders/team, subject to individual availability.

Kigali

The team is also exploring participation in a Kigali event. Aaron will investigate whether NFE can obtain passes and potentially participate as workshop facilitators or presenters.

The team agreed to resume a physical working session on **Friday**, with Nairobi preparation being one of the main priorities.

11. Fundraising & Corporate Readiness

NFE is awaiting outcomes from current grant opportunities and needs to identify additional fundraising avenues, particularly to support further deployment work at Pearl Marina and other sites.

The team also briefly discussed ensuring NFE's equity/shareholding documentation is properly organized ahead of future grant, investment or corporate due-diligence processes.

Action Items

Action	Owner	Timing
Stabilize OpenEMS telemetry so outage, battery and reliability metrics can be reliably collected	Aaron / Hillary	August priority
Complete outstanding inverter/OpenEMS integration work	Aaron / Hillary	Target: next week
Move remaining Nansana meters onto the common OpenEMS monitoring/dashboard stack	Technical team	During August
Design automated customer notification when the site switches to battery backup	Hillary / Technical team	After telemetry stabilization
Establish a reliability baseline before testing new battery dispatch configurations	Technical team	After telemetry stabilization
Test peak/off-peak battery dispatch strategies and measure effect on reliability and margins	Technical team	After baseline is established

Action	Owner	Timing
Develop a more rigorous cost/service-charge pricing model for future commercial sites	Aaron / Team	Before next larger commercial deployment
Meet battery funder, provide deployment update and discuss roadmap/data-sharing expectations	Aaron	Monday
Clarify how OpenEMS writes settings to inverter registers and how automated control could modify those settings	Aaron / Hillary	Technical investigation
Revisit Microgrid OS analytics-layer architecture, including LLM/MCP-based querying over telemetry	Aaron / Hillary	Q4 planning
Review Nairobi workshop BOQ/components and ensure the team understands the proposed hardware architecture	Aaron, Hillary & Dansturn	Before Nairobi
Define a concrete Generation 3 deliverable/plan for the Nairobi workshop	All	Before Nairobi
Investigate UNBS certification/calibration requirements and likely costs for NFE-assembled meters/PDU	Team — owner to be confirmed	Before Generation 3 production deployment
Follow up on Chanjala three-phase meter installation	Aaron	Ongoing
Arrange monitoring installation at Dansturn's home	Aaron / Technician; Dansturn to coordinate availability	Target Monday/Tuesday
Use Dansturn installation as a nearby development/test environment before rolling out to Edward and similar customers	Technical team	After installation
Investigate Kigali conference/workshop passes and participation	Aaron	Follow-up
Hold physical NFE working session focused on Nairobi preparation	All	Friday
Identify additional fundraising opportunities for upcoming deployments	All	Ongoing
Ensure NFE shareholding/equity documentation is organized for future grants/investment processes	Founders	Upcoming

