NFE Checkin - 18/09/2026

Date: 19 September 2026
Participants: Aaron Tushabe, Dansturn Kimbowa, Hillary Arinda
Main topics: Commercial customer model, Worship Harvest opportunity, system sizing and validation, conference/workshop objectives, Street EMS certification, and travel/logistics.

1. Commercial customer model

The team reviewed the emerging NFE model for supplying commercial/non-residential customers with **reliable power at approximately the same effective cost they already pay for electricity**, while NFE owns and operates the reliability infrastructure.

The proposed commercial deployment model is:

- **Phase 1 – Metering/data collection:** Install NFE submetering ahead of the existing utility meter to collect more granular usage data, ideally at 15-minute intervals.
- **Phase 2 – Reliability deployment:** NFE installs battery storage, inverter capacity and solar PV sufficient to provide reliable power through outages. At this stage, the customer would begin receiving a single NFE bill rather than separately managing the utility relationship.
- **Phase 3 – Continuous optimization:** NFE adjusts PV, battery and power-system capacity over time as customer demand, outage patterns and operating requirements change.

A key conclusion was that, unlike some residential deployments, the **commercial model appears to require significant solar PV in Phase 2** to make the economics work well.

2. Worship Harvest as the first commercial case

The Worship Harvest facility was used as the primary case study.

The available utility-bill data suggests consumption of approximately **6.9 MWh/month**, with much of the load occurring during shoulder periods and some during peak periods.

The preliminary system concept discussed was approximately:

- **120 kWh LFP battery**
- **50 kW three-phase inverter**
- approximately **40 solar panels**
- NFE metering, control and software
- reliability coverage targeted at roughly **six hours**

The preliminary project CAPEX discussed was in the range of roughly **UGX 120–140 million**, although the team agreed that these numbers still need engineering validation.

The current model appears to generate positive economics for NFE, with discussion around annual returns in the vicinity of **20%**, but the team explicitly recognized that the figures need to be challenged and independently reviewed before being treated as reliable.

3. Worship Harvest’s real reliability problem may be bigger than the utility bill suggests

Dansturn provided important operational context from the customer side.

Worship Harvest reportedly uses its generator **regularly on Sundays and for important functions even when utility power is available**, because reliability during events is considered too important to risk.

The installed main generator is approximately **200 kVA**, and additional generators may also be brought in for large events, particularly where temporary external tents, LED screens, speakers and other event loads need power.

This means the business case should not be evaluated only against the utility bill.

A potentially significant part of the customer value proposition is replacing or reducing:

- routine Sunday generator operation;
- diesel consumption;
- generator maintenance;
- temporary generator rentals;
- operational risk associated with important events.

The team estimated Sunday generator use alone could be around **UGX 2.5 million/month or more**, with total generator-related costs potentially significantly higher once other events are included.

This materially strengthens the potential commercial case.

4. Peak-demand sizing is the main technical uncertainty

Hillary highlighted the biggest engineering concern: **a 50 kW inverter may be far too small if the existing site generator is 200 kVA and actual event loads approach that level**.

The monthly energy figures alone do not tell NFE enough about instantaneous peak demand.

The team therefore agreed that the commercial model needs actual load-profile measurements before final system sizing.

Phase 1 metering should capture:

- 15-minute or finer consumption;
- peak kW/kVA demand;
- Sunday services;
- Friday-night usage;
- major events;
- generator operating periods;
- temporary/outdoor event loads.

A major design requirement is to position the meter **after the utility/generator changeover point**, if practical, so that NFE can measure total facility demand regardless of whether it is being supplied by the grid or generator.

5. Generator integration and exceptional events

The team discussed whether existing generators should disappear completely under the NFE model.

The current thinking is **not necessarily**.

For normal operations, the NFE system should aim to remove the need for routine generator use.

However, the customer could retain generators for unusual high-demand events, especially while NFE is learning the facility’s load profile.

Over time, Phase 3 optimization could expand the NFE system so that these exceptional generator requirements also decline.

The team also recognized that parts of the Worship Harvest site are currently supplied using temporary electrical infrastructure during large events. A future design may therefore need to address not just generation capacity but also **site distribution infrastructure** to external event areas.

6. Customer value proposition

Dansturn deliberately challenged the proposal from the perspective of Worship Harvest management.

The working customer proposition is:

> Reliable electricity without the customer having to finance the solar, batteries and inverter upfront.

NFE bears the infrastructure CAPEX.

The customer continues paying for electricity, but receives:

- more reliable supply;
- reduced dependence on diesel;
- potentially one consolidated bill;
- ongoing system maintenance and optimization;
- an independently engineered installation;
- transparent metering.

A future **lease-to-own / ownership option** could also be offered.

Under that model, the customer would pay an additional amount over perhaps **15–25 years**, eventually taking ownership of the solar, battery and related infrastructure. At that point, the customer would primarily pay only for whatever residual electricity it still imports from the utility, plus any optional NFE operating/service agreement.

The team agreed that customers should have a clear long-term exit/ownership path rather than feeling permanently dependent on NFE.

7. Commercial customer threshold

The preliminary financial model suggested that customers consuming approximately **2 MWh/month or more** may begin to become attractive candidates for the NFE commercial model.

This is not yet a final investment rule, but it gives NFE an initial screening threshold for:

- schools;
- churches;
- offices;
- commercial facilities;
- hospitality;
- healthcare;
- SMEs with significant electricity consumption.

The commercial model was seen as attractive relative to residential deployments because each installation represents **one comparatively large customer**, avoiding some of the customer-acquisition and metering complexity associated with serving many small households.

8. Financing strategy

The Worship Harvest-type project would require meaningful upfront capital.

Rather than financing every installation directly from NFE's balance sheet, the team discussed bringing in **bank or project-finance partners**.

If the underlying commercial model holds, these installations could ultimately behave like long-lived infrastructure assets with recurring cash flows.

However, the team agreed that the financial model must first survive a rigorous engineering and financial review before approaching external financing partners.

9. Immediate Worship Harvest strategy

The proposed next sequence is:

1. Internally stress-test the financial and engineering assumptions.
2. Engage Worship Harvest decision-makers.
3. Deploy **Phase 1 metering** as early as possible.
4. Collect granular demand and generator-use data.
5. Redesign the Phase 2 system using actual peak-load information.
6. If viable, aim to obtain customer approval and move toward deployment before the end of October.

Dansturn indicated that he could help facilitate access to the appropriate Worship Harvest decision-makers.

Nairobi conference/workshop objectives

The team also discussed what NFE should aim to achieve during the upcoming Street EMS-related activities in Nairobi.

10. Understand the complete Street EMS architecture

Hillary emphasized that the team should leave Nairobi with a much stronger understanding of the overall Street EMS architecture, including:

- hardware;

- metering;
- firmware;
- communications;
- gateway architecture;
- OpenAMI;
- DLMS/COSEM;
- feeder-level control;
- installation and commissioning.

The goal should be enough understanding that the NFE team can independently evaluate and eventually deploy the system rather than only following a guided demonstration.

11. Certification is a priority outcome

Hillary identified **meter certification** as one of the most important goals.

The key question is:

> What is the practical path from the current Street EMS design to a meter that can legally and credibly be used for billing in Uganda?

The team wants to understand:

- UNBS requirements;
- meter accuracy classes;
- calibration requirements;
- testing laboratories;
- certification processes;
- whether equivalent certification work has already been done elsewhere;
- how certification in Kenya or other countries could support Uganda deployment.

Hillary identified the **Uganda electricity meter rules/regulations** as an important reference and agreed to help surface them for review.

12. OpenAMI and software architecture

Hillary also wants deeper understanding of the software side, particularly how **OpenAMI and DLMS/COSEM** fit together.

The team should use the workshop to understand:

- what runs on the Street EMS itself;
- what requires a gateway;

- how devices communicate upstream;
- where OpenAMI sits in the stack;
- where DLMS/COSEM fits;
- which software components are open source;
- how the architecture could integrate into NFE’s Microgrid OS.

Aaron agreed to reshare the relevant technical material on Element before the workshop.

Decisions

The team agreed that the **Worship Harvest commercial model is promising enough to pursue**, but the current financial and engineering assumptions are not yet sufficiently validated to present as final.

The biggest immediate technical gap is **peak-demand data**.

The team also agreed that the Nairobi workshop should focus primarily on **technical understanding and certification**, rather than treating fundraising as the main objective.

Funding relationships can still be developed, but the immediate goal is to strengthen NFE’s technical capability and credibility.

Action Items

Owner	Action	Timing
Aaron	Share detailed Worship Harvest financial model and assumptions with Hillary and Dansturn	Immediately
Hillary	Review the proposed inverter, battery, PV and peak-demand assumptions	Before customer pitch
Dansturn	Review the model from both engineering and Worship Harvest/customer perspectives	Before customer pitch
Dansturn	Help confirm actual generator configuration, site loads and operational practices	Next review
Dansturn	Facilitate access to Worship Harvest decision-makers	After internal review

Owner	Action	Timing
NFE team	Determine suitable metering location after the grid/generator changeover	Phase 1 design
NFE team	Capture generator consumption as well as utility consumption	Phase 1
NFE team	Develop 15-minute or finer load-data collection plan	Phase 1
NFE team	Reassess whether 50 kW inverter / 120 kWh battery is sufficient	After load data
Aaron	Refine commercial model to include avoided diesel and generator costs	Next model revision
Aaron	Explore project/bank financing model rather than assuming full NFE self-financing	After model validation
Hillary	Locate/share Uganda electricity meter rules / UNBS requirements	Before/during Nairobi workshop
NFE team	Ask workshop experts for the practical Street EMS certification pathway	Nairobi workshop
Hillary	Investigate OpenAMI/DLMS/COSEM architecture in more detail	Nairobi workshop
Aaron	Reshare relevant Street EMS / Energy IoT technical documents on Element	Before workshop
NFE team	Leave Nairobi with a solid end-to-end understanding of Street EMS architecture	Workshop objective
Aaron / team	Add the AI-assisted AutoCAD/design workflow discussion to next week's agenda	Next weekly meeting

The three things I would carry forward most prominently

The biggest development from this meeting is that the **Worship Harvest opportunity appears stronger than the utility bills alone suggested**. Generator use is not merely backup for outages; it is being used proactively because reliability during important events is valuable. That avoided diesel and generator spend should therefore become a first-class part of the financial model.

Second, **the current system sizing should remain provisional**. A 6.9 MWh/month customer can still have a very high peak demand, and the 200 kVA generator is a strong warning against sizing a system primarily from monthly kWh.

Third, the clearest technical objective for Nairobi is now quite specific: **understand what it would take to turn Street EMS from promising open hardware into a metering platform NFE can legally deploy and bill through in Uganda.** That makes certification, calibration and the software architecture especially valuable questions for Glenn and the other experts.

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