

Institutional Knowledge Capture

Enderby Gas - AI Operations Portfolio - Brianna Bates - briannabates1221@gmail.com

Giving 85 years of operational know-how a permanent home - searchable, cited, and answerable in plain language.

"85 years of operational knowledge lived in the heads of two people. This project gave it a permanent home."

Situation

At Enderby Gas, the most critical operational knowledge had never lived in a document - it lived in people. Dale, the senior dispatcher, knew every customer quirk, every winter road condition, and exactly how to triage a no-heat emergency at 2am. That expertise is irreplaceable until someone retires, gets sick, or isn't available when a new hire needs an answer.

PAIN POINT	BUSINESS IMPACT
No documented SOPs for core dispatch tasks	New hires take 6+ months to become independent; errors spike during onboarding
Emergency protocols exist only in Dale's memory	An untrained employee on a no-heat call risks delayed response and liability
No searchable internal knowledge base	Every question interrupts a senior employee - a bottleneck that compounds in peak season
No way to transfer knowledge when staff leave	One retirement creates immediate operational risk

OPERATIONAL CLARITY: THE ENDERBY GAS KNOWLEDGE HUB & AI ECOSYSTEM

THE PROBLEM: THE COST OF "TRIBAL KNOWLEDGE"



FRAGMENTED INFORMATION SILOS
Reliance on handwritten notes and inconsistent verbal instructions led to new hire confusion and supervisor fatigue.



SERVICE FAILURE RISKS
Inconsistent prioritization rules meant "Urgent" low-tank situations were often misclassified as "Standard" orders.



VAGUE ESCALATION PATHS
After-hours staff lacked clear decision-making frameworks for when to notify management or dispatch.

THE SOLUTION: A THREE-PILLAR ECOSYSTEM



01. STANDARDIZED SOP LIBRARY
Eight core procedures rewritten to include mandatory inputs, step sequences, QA audit questions, and failure modes.

02. VISUAL WORKFLOW MAPPING
A comprehensive diagram detailing the will-call lifecycle from intake and verification to staging and exception handling.

03. AI-POWERED KNOWLEDGE ENGINE
SOPs integrated into NotebookLM to provide a searchable, interactive interface for real-time procedural guidance.

THE SYSTEM IN ACTION: RULE-BASED DECISION MAKING



CRITICAL "NO-HEAT" PRIORITY
Response target is same-day within 4 hours if the customer is out of gas in freezing weather or if vulnerable residents (infants/elderly) are present.



URGENT WILL-CALL THRESHOLD
Any propane tank level at 15% or below must be classified as "Urgent" to prevent service failure.



AUTO-FILL ELIGIBILITY CRITERIA
Approval requires four distinct checks: Tank Visibility, Site Access (no barrier/pets), Billing Standing (no delinquency), and Operational Fit.



NEW ACCOUNT INSPECTIONS
Switching from a competitor requires a mandatory site visit to inspect for rust, damage, and leaks before the first delivery.

DOT PRE-CHECK ESCALATION TRIGGERS

TRIGGERING EVENT	REQUIRED ACTION
Expired Medical Certificate	Immediate Supervisor Escalation
Missing Cab Packet Documents	Immediate Supervisor Escalation
Safety Equipment Failure	Immediate Supervisor Escalation
Visual Look During Walkaround	Immediate Hold & Management Notification

PROJECTED OPERATIONAL IMPACT



REDUCED ONBOARDING TIME
Centralized documentation allows new hires to find answers independently rather than shadowing supervisors.



HIGH-FIDELITY QA AUDITS
Integrated QA questions within SGPs ensure that auditors can verify corrections against the "Single Source of Truth".



MINIMIZED OPERATIONAL ERRORS
Clearer rules for tank classification and delivery scheduling lead to fewer missed steps and improved customer safety.

NotebookLM

The knowledge hub as a three-pillar ecosystem: a standardized SOP library, visual workflow maps, and an AI-powered knowledge engine - turning tribal knowledge into rule-based, repeatable decisions.

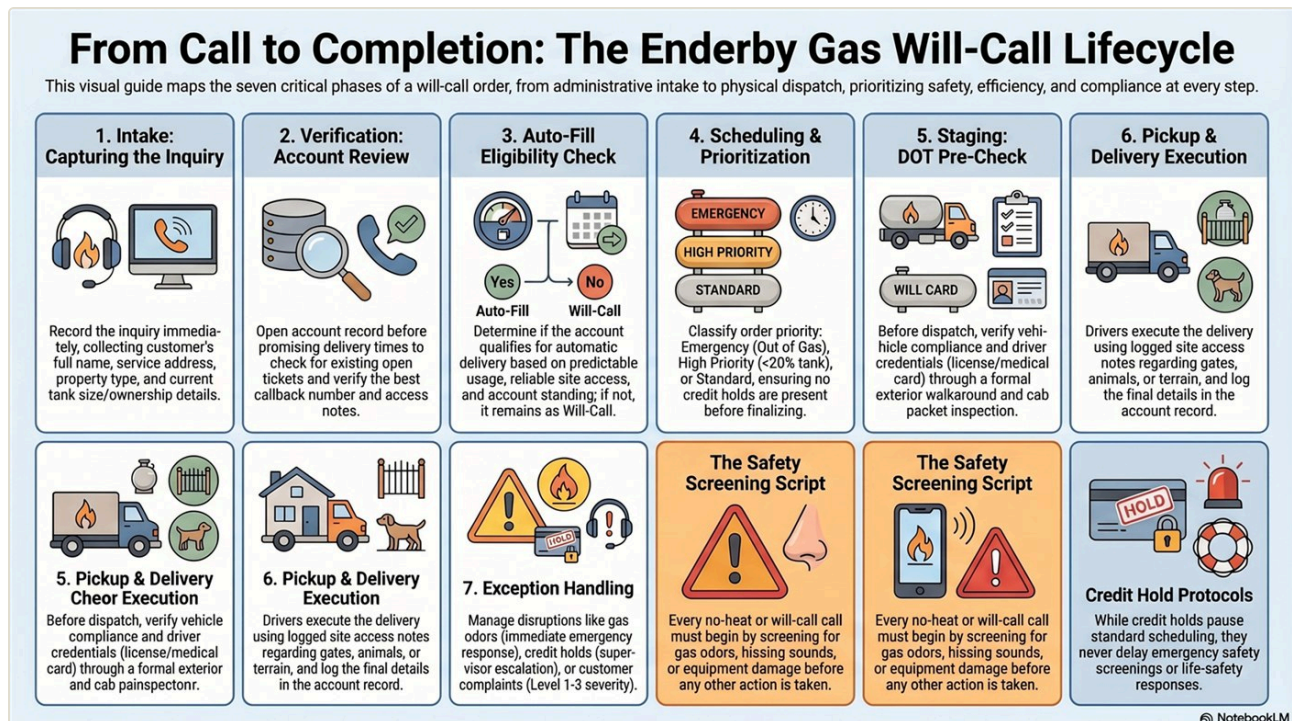
Task

Capture the most critical operational knowledge into a structured, searchable, AI-powered knowledge base - using only free-tier Google Workspace and Google AI tools, usable by employees of any technical comfort, and demonstrably useful from day one.

Action - what I built

1. Five core SOPs (Google Docs)

Written in Dale's voice - a senior dispatcher speaking directly to a new hire. Each includes purpose, applicability, numbered steps, exception callouts, escalation rules, and common mistakes: Will-Call Order Procedure, No-Heat Emergency Triage, New Customer Onboarding, DOT Inspection Pre-Check, Auto-Fill Eligibility Rules.



One SOP, visualized: the seven-phase Will-Call lifecycle - from intake and account verification through prioritization, DOT pre-check, and delivery - with a safety screening script gating every step.

2. NotebookLM knowledge base

All five SOPs uploaded into an "Enderby Operations Library" notebook, so employees can ask questions in plain language and get answers cited directly from the source documents - not generic AI guesses.

3. A custom Gemini Gem, "Dale"

A persona-driven assistant configured to answer only from the SOPs, flag out-of-scope questions instead of inventing answers, and lead with the most critical action first in emergencies.

Can you walk me through the full auto-fill eligibility checklist so I can confirm whether anything was missed during the review.

Alright, let's go through the exact criteria from the standard operating procedures. For an account to be put on auto-fill, the reviewer must confirm they meet all four of these requirements:

- 1. Tank and Usage Visibility:** You need to document the tank size and confirm if it is customer-owned or company-leased 1 . Their propane usage also has to be predictable enough for us to forecast deliveries confidently; if their usage is highly variable or unknown, they have to stay on will-call 1 .
- 2. Site Access:** The driver must have reliable access to the tank without barriers 1 . If there are locked gates, unleashed animals, or terrain problems, the account is disqualified until the issue is fixed 1 . All access conditions must be noted in their account record 1 2 .
- 3. Billing Standing:** The account has to be in good standing 2 . Delinquent accounts require management review before approval, and active payment plans have to be reviewed on a case-by-case basis 2 .
- 4. Operational Fit:** The location has to make sense for our route density and territory coverage 2 . Accounts in low-density or out-of-territory areas might not be eligible 2 .

Grounded, not guessed: NotebookLM walks through the four auto-fill eligibility criteria, with inline citations pointing back to the exact source SOP for every claim.

Result - projected impact

METRIC	ESTIMATED IMPACT	SOURCE CONTEXT
New-hire time-to-independence	6+ mo to 6-8 wks	Structured onboarding & documented SOPs
Senior-employee interruptions	-40-60%	Searchable KB, first 90 days per new hire
Emergency-call accuracy	Improved	New hires follow documented protocol vs. improvising
Knowledge retention on departure	De-risked	Core procedures now documented & searchable
Build cost	\$0	Free-tier Google Workspace & Google AI

"This system doesn't replace Dale. It means Dale's knowledge survives Dale."

Why it transfers to startups

It demonstrates three capabilities relevant to AI Ops, AI enablement, and knowledge-management roles: hands-on AI tool configuration (a persona-driven Gemini Gem is prompt engineering, not just usage), knowledge architecture (structuring tacit knowledge into AI-ready SOPs), and practical implementation - every tool is free and replicable by any small business in under two weeks, at \$0 cost.

Enderby Gas is a real company used with the owner's permission. All names, customer data, and operational figures are simulated for portfolio purposes; impact figures are projected from published industry benchmarks, not deployed results. No proprietary records were used.