

Inventory and loss worksheet

Use one system boundary, reporting period and quantity basis.

Facility / system / person completing this record

Reporting period and system boundary

Quantity basis: gas volume + reference temperature/pressure, liquid volume, or mass

Use the same basis throughout. Document any conversions and measured helium fractions. Do not add internal recirculation to new inputs.

A. Opening helium inventory

B. New helium supplied from outside the boundary

C. Other helium returned from outside the boundary

D. Closing helium inventory

E. Helium transferred outside the boundary for continued use

F. Quantified losses (attach the measurements)

Unreconciled difference = A + B + C - D - E - F. Investigate either a positive or negative difference; it can include measurement or boundary errors.

Unreconciled difference and investigation needed

Gas-stream and recovery record

Separate collected mixture, recovered helium and helium approved for reuse.

System / period / quantity basis

For each stream, record helium concentration, collection point, destination and measurement method. Distinguish deliberate discharge from unintended leaks.

Stream 1

Source, helium fraction, collection point and destination

Helium supplied / collected / approved for reuse / lost; method and evidence

Stream 2

Source, helium fraction, collection point and destination

Helium supplied / collected / approved for reuse / lost; method and evidence

Stream 3

Source, helium fraction, collection point and destination

Helium supplied / collected / approved for reuse / lost; method and evidence

Stream 4

Source, helium fraction, collection point and destination

Helium supplied / collected / approved for reuse / lost; method and evidence

A component recovery percentage does not establish whole-site savings. Recovered gas must satisfy the requirements of its next use.

Supplier questionnaire

Request the specification and evidence for the actual process or equipment.

Supplier, equipment / process, contact and date

What function does helium serve? What purity and impurity limits are required?

What is the initial inventory and expected replacement demand for a stated workload?

Which losses are included: normal operation, transfers, servicing, outages and retirement?

What can be captured, purified and reused? What recovery boundary and test support the claim?

What alternatives have been qualified? What performance and safety validation is needed?

What energy, consumables, maintenance, staffing and downtime are required?

Which documents, measurements, warranties or customer results substantiate the answers?

Purchasing and follow-through

Record Yes, No or Unknown, then identify the evidence and next action.

1. Required helium function and gas quality are defined.

2. Inventory and annual replacement demand are separately documented.

3. Compatible alternatives have been evaluated and qualified as needed.

4. Recovery scope, performance boundary and gas-quality controls are documented.

5. Energy, maintenance, consumables and training costs are included.

6. Outage, servicing and retirement arrangements retain recoverable helium.

7. A baseline and post-installation measurement plan are agreed.

Decision / unresolved prerequisite / evidence location

Responsible person / due date / date verified

Background and guidance:

Recovery handbook

Alternatives guide

Sources and methods