

THIS OR THAT?

KNOW THE DISTANCE

Firefighter Air Resupply Assessment Worksheet

A practical tool for examining the distance, staffing, time, and operational capacity required to sustain breathing air resupply in high-rise, big-box, warehouse, fulfillment, industrial, and other complex occupancies.

PURPOSE AND USE

Use this worksheet during pre-incident planning, building familiarization, training, and operational review. Complete the assessment with personnel familiar with command, operations, air management, staffing, and the building. Record observed or timed conditions whenever practical. Do not delay emergency operations to complete this form, and do not enter an unsafe area solely to obtain measurements.

MEASURE IT. STAFF IT. PLAN FOR IT.

Before the fire service can answer, “This or That?”, it first must know the distance.

How to Use This Worksheet

HOW TO COMPLETE THIS SECTION

Complete the worksheet for a specific building and a realistic anticipated operating area. Use actual staffing, apparatus, cylinder inventory, mutual-aid assumptions, and travel routes. If an answer is unknown, mark it “Unknown” rather than estimating. Revisit the worksheet after significant building changes, staffing changes, or training findings.

1. Select a realistic operational area.

Choose the location where crews are most likely to face the greatest air-resupply challenge, such as an upper fire floor, remote warehouse sector, rack-storage area, pick module, basement, tunnel, or industrial process area.

2. Walk the actual route.

Follow the path firefighters would realistically use while carrying hose, tools, and equipment. Include entry control, stairwells, staging, interior obstructions, turns, elevation changes, and the route to replacement cylinders.

3. Time the process under controlled conditions.

Where appropriate, use a training evolution or building familiarization to record travel and cylinder-exchange times. Do not treat a single evolution as a universal threshold; use it to understand local conditions and identify questions for further review.

4. Use actual response resources.

Base staffing and capacity answers on the personnel, cylinders, apparatus, mutual aid, and support functions reasonably expected for the incident, not an idealized response.

5. Discuss operational consequences.

Identify what happens to search, attack, rescue, rapid intervention, accountability, relief, and community coverage when personnel are assigned to air logistics or crews' cycle out for cylinder exchange.

6. Document follow-up actions.

Assign responsibility and a review date for unresolved issues, training needs, pre-plan changes, mutual-aid discussions, or further technical evaluation.

Assessment Information

HOW TO COMPLETE THIS SECTION

Identify the building, the area being evaluated, and the personnel completing the review. Use one worksheet for each distinct operating area when travel routes or air-resupply demands differ significantly.

Building / Facility Name	_____
Street Address	_____
Department / Agency	_____
Assessment Date	_____ Review Date: _____
Completed By	_____
Operational Area Evaluated	_____
Primary Entry / Access Point	_____

Occupancy and Building Profile

Occupancy Type	☐ High-Rise ☐ Big-Box Retail ☐ Warehouse / Distribution ☐ Fulfillment ☐ Industrial ☐ Underground ☐ Other
Building Area	_____ sq. ft. Number of Floors: _____
Highest Fire-Service Access / Operating Level	_____
Maximum Clear Height	_____ ft. Below-Grade Levels: _____
Special Interior Conditions	☐ Rack storage ☐ Pick module ☐ Machinery ☐ Secured areas ☐ Limited access ☐ Other
Fixed Fire Protection	☐ Sprinklered ☐ Standpipe ☐ Fire pump ☐ Smoke control ☐ Firefighter air system ☐ Other

Step 1: Measure It

HOW TO COMPLETE THIS SECTION

Evaluate the actual travel path between the anticipated point of operation and reliable replacement air. Record both distance and time when possible. For a high-rise, include vertical travel, staging, and stairwell movement. For a big-box or warehouse, include the horizontal route, turns, obstructions, rack storage, and the actual path crews will follow. Use safe, controlled conditions.

Anticipated Point of Operation	_____
Reliable Air-Supply Location	_____
Route Type	☐ Vertical ☐ Horizontal ☐ Combined
Travel Distance to Operation	_____ ft. and/or _____ floors
Travel Distance to Replacement Air	_____ ft. and/or _____ floors
Estimated / Timed Round Trip	_____ ft. and/or _____ minutes
Cylinder Exchange Time	_____ minutes
Total Air-Resupply Cycle Time	_____ minutes

Route Conditions

Condition	Present	Notes
Long stair climb	☐	_____
Extended horizontal travel	☐	_____
Restricted or secured access	☐	_____
Rack storage / pick module	☐	_____
Machinery or conveyors	☐	_____
Multiple turns / complex layout	☐	_____
Obstructions or changing routes	☐	_____
Limited visibility expected	☐	_____
Remote or protected staging required	☐	_____
Other: _____	☐	_____

Measurement Notes

Step 2: Staff It

HOW TO COMPLETE THIS SECTION

Use the staffing reasonably expected to arrive and operate at this building. Separate personnel assigned to air logistics from crews that must leave the operating area for cylinder exchange. Account for moving full cylinders forward, returning empty cylinders, managing staging, supporting exchange, tracking inventory, and maintaining command and accountability.

First-Alarm Staffing	_____ firefighters
Additional Alarm Staffing	_____ firefighters
Mutual-Aid Staffing Expected	_____ firefighters
Initial Cylinder Inventory	_____ full cylinders
Additional Cylinder Supply	_____
Air / Cascade / Compressor Support	_____

Air-Resupply Staffing Estimate

Air-Resupply Function	Firefighters Required	Notes / Assumption
Move full cylinders forward	_____	_____
Return empty cylinders	_____	_____
Manage air staging / inventory	_____	_____
Support cylinder exchange	_____	_____
Coordinate air-resupply operation	_____	_____
Other: _____	_____	_____
TOTAL AIR-LOGISTICS STAFFING	_____	_____

Crew Cycling

Crew Size	_____ firefighters
Crews Expected to Operate	_____ crews
Estimated Crews Cycling for Air at One Time	_____ crews
Firefighters Temporarily Removed During Exchange	_____ firefighters

**Estimated Time Away from
Assignment**

_____ minutes per cycle

Step 3: Evaluate Operational Impact

HOW TO COMPLETE THIS SECTION

Review how air-resupply staffing and crew cycling affect the rest of the incident. Mark “Yes” only when the function can be maintained with the anticipated resources. Use the comments area to identify delays, reduced staffing, dependence on later-arriving companies, or effects on community response coverage.

Function / Question	Yes	No	Comments
Fire attack can be maintained	☐	☐	_____
Primary search can be maintained	☐	☐	_____
Civilian rescue capability can be maintained	☐	☐	_____
Rapid intervention can remain fully staffed	☐	☐	_____
Accountability can be maintained	☐	☐	_____
Crew relief can be sustained	☐	☐	_____
Air-resupply operation can be sustained	☐	☐	_____
Command and incident support can be maintained	☐	☐	_____
Additional calls can still receive an adequate response	☐	☐	_____

Potentially Delayed or Reduced Operations

☐ Search ☐ Fire attack ☐ Rescue ☐ RIT ☐ Accountability ☐ Ventilation ☐ Exposure protection ☐ Crew relief ☐ Community coverage ☐ Other

Describe the Most Significant Operational Effect

Step 4: Answer the Capacity Question

HOW TO COMPLETE THIS SECTION

Use the measured distance, timed cycle, staffing estimate, and operational-impact review to determine whether the department can sustain air resupply in this building. This is a local operational judgment, not a universal threshold. If the answer is uncertain, identify what additional training, measurement, engineering review, or mutual-aid analysis is needed.

DO WE HAVE THE CAPACITY TO MOVE ENOUGH AIR, FAR ENOUGH, FOR LONG ENOUGH, WHILE STILL ACCOMPLISHING EVERY OTHER CRITICAL FIREGROUND FUNCTION?

Function / Question	Yes	No	Comments
Current staffing can sustain the projected air-resupply demand	☐	☐	_____
Current cylinder inventory can sustain the projected operation	☐	☐	_____
Air staging can be established at a practical location	☐	☐	_____
Crew cycling can occur without unacceptable operational delay	☐	☐	_____
Mutual aid arrives soon enough to support the plan	☐	☐	_____
Community response coverage remains acceptable	☐	☐	_____
The current pre-incident plan adequately addresses air resupply	☐	☐	_____

Overall Capacity Finding

☐ SUFFICIENT ☐ SUFFICIENT WITH CHANGES ☐ UNCERTAIN / MORE REVIEW NEEDED ☐ NOT SUFFICIENT

Basis for Finding

Step 5: Plan for It

HOW TO COMPLETE THIS SECTION

Convert the findings into specific actions. Identify what must change, who owns the action, and when it will be reviewed. Actions may include pre-plan updates, training, air-cache or staging changes, staffing or mutual-aid discussions, cylinder inventory changes, building-owner coordination, or evaluation of building-supported air options. This worksheet does not prescribe a single solution.

Recommended Action	Responsible Person / Unit	Target Date	Status
_____	_____	_____	☐
_____	_____	_____	☐
_____	_____	_____	☐
_____	_____	_____	☐
_____	_____	_____	☐

Pre-Incident Plan Disposition

☐ No change
 ☐ Update building pre-plan
 ☐ Add air-resupply plan
 ☐ Add mutual-aid requirement
 ☐ Add training objective
☐ Request further technical review

Review and Approval

Company / Assessment Lead	_____ Date: _____
Chief Officer / Reviewer	_____ Date: _____
Training / Operations Review	_____ Date: _____
Fire Prevention / Pre-Plan Review	_____ Date: _____
Next Review Date	_____

This or That?

HOW TO COMPLETE THIS SECTION

Complete this final section after reviewing the assessment findings. The purpose is not to force a predetermined answer. The purpose is to document whether conventional air-resupply methods appear sufficient for this building and whether additional options deserve evaluation.

THIS	THAT
Continue relying on firefighters to carry breathing air to the point of operation.	Explore ways to bring reliable breathing air closer to where firefighters need it.

Assessment Conclusion

For this building and operating area, conventional air-resupply methods appear:

☐ SUFFICIENT ☐ SUFFICIENT WITH CHANGES ☐ UNCERTAIN ☐ ADDITIONAL OPTIONS SHOULD BE EVALUATED

Final Comments

KNOW THE DISTANCE. KNOW THE DEMAND.

MEASURE IT. STAFF IT. PLAN FOR IT.

Before the fire service can answer, “This or That?”, it first must know the distance.