SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEM
OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30

1. REQUISITION NUMBER: REQ-4200-10-0008

2. CONTRACT NO.: GS-23F-0339K

3. AWARD/EFFECTIVE DATE: 1-25-10

4. ORDER NUMBER: CPSC-F-10-0024

5. SOLICITATION NUMBER: CPSC-Q-10-0017

6. SOLICITATION ISSUE DATE: 01/08/2010

7. FOR SOLICITATION INFORMATION CALL: a. NAME: Peter Nerret — b. TELEPHONE NUMBER (No collect calls): 301-504-7033

8. OFFER DUE DATE/LOCAL TIME:

9. ISSUED BY — CODE: FMPS

CONSUMER PRODUCT SAFETY COMMISSION
DIV OF PROCUREMENT SERVICES
4330 EAST WEST HWY
ROOM 517
BETHESDA MD 20814

10. THIS ACQUISITION IS
[X] UNRESTRICTED OR [ ] SET ASIDE: % FOR:
[ ] SMALL BUSINESS [ ] EMERGING SMALL BUSINESS
[ ] HUBZONE SMALL BUSINESS [ ] SOLE SOURCE
[ ] SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS [ ] 8(A)
NAICS:
SIZE STANDARD:

11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED [ ] SEE SCHEDULE

12. DISCOUNT TERMS: Net 30

13a. [ ] THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)

13b. RATING:

14. METHOD OF SOLICITATION [ ] RFQ [ ] IFB [ ] RFP

15. DELIVER TO — CODE: LS

CONSUMER PRODUCT SAFETY COMMISSION
DIRECTORATE FOR LABORATORY SCIENCES
10901 DARNESTOWN ROAD
GAITHERSBURG MD 20878

16. ADMINISTERED BY — CODE: FMPS

CONSUMER PRODUCT SAFETY COMMISSION
DIV OF PROCUREMENT SERVICES
4330 EAST WEST HWY
ROOM 517
BETHESDA MD 20814

17a. CONTRACTOR/OFFEROR — CODE: 081509838 — FACILITY CODE:

ARCADIS US INC
ATTN MR VAN SANDS
630 PLAZA DRIVE
SUITE 100
HIGHLANDS RANCH CO 80129

TELEPHONE NO: 720-344-3792

[ ] 17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER

18a. PAYMENT WILL BE MADE BY — CODE: FMFS

CONSUMER PRODUCT SAFETY COMMISSION
DIVISION OF FINANCIAL SERVICES
4330 EAST WEST HWY
ROOM 522
BETHESDA MD 20814

18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED [ ] SEE ADDENDUM

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
	DUNS Number: [redacted] The Contractor shall furnish all necessary personnel, materials and services to perform the work set forth in the attached Statement of Work (SOW) and Test Chamber document and in accordance with GSA pricing. *(Use Reverse and/or Attach Additional Sheets as Necessary)*				

25. ACCOUNTING AND APPROPRIATION DATA: 10-PS-EXHR-4200-99930-252Z

26. TOTAL AWARD AMOUNT (For Govt Use Only): $21,318.00

[ ] 27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4. FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA [ ] ARE [ ] ARE NOT ATTACHED.

[ ] 27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA [ ] ARE [ ] ARE NOT ATTACHED.

[ ] 28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN ______ COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED HEREIN.

[X] 29. AWARD OF CONTRACT REF ______ OFFER DATED ______. YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS:

30a. SIGNATURE OF OFFEROR/CONTRACTOR

31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER)

30b. NAME AND TITLE OF SIGNER (Type or print)

30c. DATE SIGNED

31b. NAME OF CONTRACTING OFFICER (Type or print): Robert J. Frost

31c. DATE SIGNED: 1/25/10

OS (T. STEVENSON)

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22 UNIT	23 UNIT PRICE	24. AMOUNT
0001	(TASK A-C) EXPERT ENGINEERING CONSULTATION SERVICES RELATIVE TO A NEW COMBUSTION PRODUCT TESTING LABORATORY TO BE BUILT. Period of Performance: January 25, 2010 thru March 29, 2010	1	EA	21,318.00	21,318.00
0002	OPTIONAL (TASK D)- EXPERT ENGINEERING CONSULTATION SERVICES RELATIVE TO A NEW COMBUSTION PRODUCT TESTING LABORATORY TO BE BUILT. Period of Perfromance: March 30, 2010 thru April 30, 2011. This Optional Line Item may be exercised anytime up to April 30, 2011. . Amount: $8,785.00(Option Line Item) The total amount of award: $30,103.00. The obligation for this award is shown in box 26.	1	EA	8,785.00	0.00

32a QUANTITY IN COLUMN 21 HAS BEEN

☐ RECEIVED ☐ INSPECTED ☐ ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED.

32b SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE	32c. DATE	32d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE

32e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE

32f TELEPHONE NUMBER OF AUTHORIZED GOVERNMENT REPRESENTATIVE

32g E-MAIL OF AUTHORIZED GOVERNMENT REPRESENTATIVE

33. SHIP NUMBER	34 VOUCHER NUMBER	35 AMOUNT VERIFIED CORRECT FOR	36. PAYMENT	37 CHECK NUMBER
☐ PARTIAL ☐ FINAL			☐ COMPLETE ☐ PARTIAL ☐ FINAL	
38. S/R ACCOUNT NUMBER	39 S/R VOUCHER NUMBER	40. PAID BY		

41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT

41b SIGNATURE AND TITLE OF CERTIFYING OFFICER	41c. DATE

42a RECEIVED BY *(Print)*

42b. RECEIVED AT *(Location)*

42c DATE REC'D *(YY/MM/DD)*	42d. TOTAL CONTAINERS

STATEMENT OF WORK

1. Description of Services

The Contractor shall provide engineering consulting services in the form of technical review, comments and guidance to CPSC staff with a review of documents for a new combustion product testing laboratory and to ensure proper form, fit, and function of the completed laboratory. The Contractor shall provide these services at the critical stages of the laboratory construction, including an initial meeting with CPSC staff, and when the 50% and 95% construction drawing packages are ready for review. The documents shall include the program of requirements study, design intent drawings with floor space plans, and construction drawings. The comments and guidance provided shall serve to assist in review of construction and laboratory fabrication. The combustion product testing laboratory construction drawings will primarily include systems for handling the heating, ventilation, and air conditioning (HVAC), mechanical exhaust ventilation, environmental chamber exhaust handling, plumbing supply, cooling systems, electrical power supply, and a laboratory detection system for fire, chemical and explosion protection. These systems within the laboratory space support the environmental test chambers, test equipment and test supplies.

2. Contract Type

This procurement is a firm-fixed price type contract for expert services in combustion laboratory design.

3. Background

a. The CPSC, through General Services Administration and the facility owner, is renovating an existing laboratory building located at 5 Research Place in Rockville, Maryland. The laboratory facility will include office spaces, a fire test lab, an electrical test lab, a chemistry and fireworks test lab, a mechanical and children's products test labs, and a combustion product laboratory space dedicated to testing of consumer products for performance specifications, fire hazards, and combustion emission results. The combustion lab will contain five independent environmental chambers each with temperature controls, an air exchange system, a data acquisition system, gas analyzers and sampling systems, fuel mixing and supply systems. The laboratory space will contain calibration gases, natural gas lines, and when testing requires gasoline, kerosene or diesel fuels, and propane cylinders. The laboratory will have real-time passive gas monitoring systems (inside and outside each test chamber), fire suppression systems for each chamber where fire is a concern, and a dedicated laboratory building safety monitoring system.

b. The largest environmental chamber, with an interior volume at approximately 1600 cu ft, will support equipment for the measurement of emission of consumer products, and subsequent analysis from indoor air quality (IAQ) modeling. The chamber represents a one-zone environment where the air exchange rate (or air changes per hour (ACH)) may be varied to achieve specific oxygen concentrations that are designed to emulate operating environments. Mass-balance equations for the chamber and appliance are solved to determine the generation rates of the gases. Staff has constructed and uses similar chambers at the current laboratory. Current chamber specifications require 120,000 Btu thermal rating cooling and heating capacity with ACHs of between 0.1/hr up to 30/hr. Traditionally, laboratory staff used inline DC fans to adjust the chamber ACH usually with a high degree of precision and reproducibility. This large chamber's exhaust ventilation system is expected to disperse up to an approximate maximum of 47,000 cu ft/hr through a ceiling penetration of 6" to 8" piping. Staff is designing the system to measure the air flow directly with inline sensors and by the traditional decay method. In addition to testing stand alone products in this chamber an independent and continuous CVS system, primarily for testing engine product, will provide exhaust emission analysis in steady state and transient modes. It is desirable to use the CVS system for emission results with a variety of combustion products, if possible. The CVS system specification has a dilution tunnel located above the chamber and chamber penetration components that can be removed when one zone IAQ chamber tested is in progress. When the CVS system is not in use, these chamber penetrations openings need to seal to air tight condition. Staff would like to maintain the ability to control the environmental conditions surroundi4ng the engine without compromising the air supplied to the engine. The auxiliary equipment associated with the CVS system would be located outside the chamber. The CVS will be able to exhaust up to approximately 3500 cu ft/hr. The dilution tunnel would be designed to accommodate flows up to 33,000 cu ft/hr. CPSC staff has designed and operated chambers where combustion appliances and IC engines have been tested. However, staff has user experience with CVS systems and will rely on outside contracted expert(s) for guidance designing this system.

c. The second large chamber with approximately 1300 cu ft interior volume will be used for testing large gas-burning appliances, such as residential gas furnaces, but also can be used to test smaller appliances such as ranges or gas log sets. This second chamber's specifications also require 120,000 BTU thermal rating capacity with an air exchange and exhaust system up to 30/hr with inlet and outlet air fan controls. The exhaust ventilation system is also expected to disperse approximately 38,000 cu ft/hr through a 6" to 8" pipe ceiling penetration. Staff would measure the ACH of the chamber directly with inline sensors and by decay.

d. There are three additional smaller chambers. The next two largest chambers have interior volumes of 100 cu. ft and 38 cu ft. The combined maximum operating ACH of all three chambers are anticipated to be less than 1000 cu. ft/hr.

e. The laboratory design will support simultaneous use of test equipment and all the chambers. The current construction plan for these combustion test exhaust ventilation systems consists of a rooftop collection plenum with individual inputs for each of the five chamber and the CVS exhaust ventilation piping. In addition, this plenum collection system will support the single pass through and dedicated combustion lab HVAC system. The entire combustion lab supply air is expected to be at least 15 ACH.

4. Performance of Work

Independently, and not as an agent of the Government, the Contractor shall furnish all necessary personnel, materials, services, and facilities to perform the work set forth below; except as provided in Section 7, "Government Furnished Equipment/Supplies."

Task a.

The Contractor shall teleconference with CPSC staff to discuss the current design concepts, lab performance requirements, needs and capabilities of the Combustion lab space.

Task b.

The Contractor shall conduct an initial review of the Design Intent Drawings (DID), the 50% Design/Construction Drawings Review Package, the Program of Requirements (POR) study, and the staff developed equipment specifications. The Contractor shall provide comments and recommendations to CPSC staff that address whether acceptable designs have been implemented. In particular, comments are desired to determine (1) if the suggested combustion laboratory HVAC system can support the 15 ACH that was specified in the POR and (2) if the construction design of combustion lab exhaust ventilation system is acceptable. These exhaust ventilation system components include, but are not exclusive to, the collection plenum, the exhaust stacks, the exhaust inflow location within the collection plenum and the blower. If applicable, these construction drawings should follow ASHRAE requirements, the Factory Mutual Global 7-77 test facility standard, and other applicable code, and good engineering practices. This review will be conducted over a two-week period between January 26, 2010 and February 8, 2010. The Contractor shall be available for 2 full days determined by the CPSC during this 2-week review period to provide, by conference call, the complete commentary and all recommendations on the design for possible inclusion in the Government's review and approval of the 50% Construction Drawing Package. Prior to the conference call the Contractor shall provide a listing of all items to be addressed in the conference call. The listing shall include a very brief summary of the conclusions associated with each item. The comments and recommendations shall support system optimization, and equipment limitations, and best practices for combustion lab design. The comments and recommendations shall identify possible areas of design improvement and where specifications may not be adequate to accomplish the stated test goals. The Contractor shall provide the CPSC PO with a letter report of comments and recommendations within one week (February 15, 2010) after the end of the review period. This written report is to include the comments and recommendations given in the conference call and any calculations, details, and engineering justifications to support the conclusions. It is expected that the Contractor would meet with CPSC staff via conference calls frequently during the two week review window to discuss the 50% package documents and other design documents provided by the Building Owner and CPSC staff for Government review and approval.

Task c.

The Contractor shall review the 95% Design/Construction Drawings Review Package provided by CPSC staff to determine if any corrections/changes to the designs were made adequately per the Contractor's comments. Depending on the construction drawing development in the 50% package, the tasks as prescribed in Task c may apply. This review shall be conducted over a one-week period from March 23, 2010 to March 29, 2010. The Contractor shall be available for one full day, to be determined by the CPSC Project Officer, during this review period to provide, by conference call, the complete commentary and all recommendation on the design for possible inclusion in the Government's review and approval of the 95% Construction Drawing Package. Prior to the conference call the Contractor shall provide a listing of all items to be addressed in the conference call. The listing shall include a very brief summary of the conclusions associated with each item. The Contractor shall provide the CPSC PO with a letter report of comments and recommendations within one week (April 5, 2010) after the end of the review period for possible inclusion in the Government's review and approval of the 95% Construction Drawing Package. This written report is to include the comments and recommendations given in the conference call and any calculations, details, and engineering justifications to support the conclusions. It is expected that the Contractor would meet with CPSC staff via conference calls frequently during the one week review window to discuss the 95% package documents provided by the Building Owner for Government review and approval.

Task d. (OPTIONAL TASK) (This task should be priced separately)
The Contractor shall propose test conditions to be included in a commissioning plan that shall be conducted prior to CPSC staff occupancy of the combustion lab space. The Contractor shall provide a written report documenting the findings of the commissioning tests and note any deficiencies relative to the design specifications.

5. **Period of Performance.** Work shall begin on the effective date of this contract and shall not extend beyond March 29, 2010, unless optional Task 'd' is exercised by CPSC. A description of estimated work intervals is below. The time frame schedule is as presented by the building owner's schedule for 50% and 95% construction drawing review packages. This schedule may be subject to change.

Item	Anticipated Time Frame
Initial Review and Meeting (Task a)	ASAP after award
50% Review (Task b)	January 26, 2010 thru February 15, 2010
95% Review (Task c)	March 23, 2010 thru March 29, 2010
Optional Task (Task d) – Commissioning Plan. (See Section 9)	March 30, 2010 thru April 30, 2011

6. **Reporting Requirements**
The Contractor shall submit the following reports to the Project Officer:
Letter reports of recommendations and comments must be emailed to the CPSC Project officer Mr. Chris Brown at: cbrown@cpsc.gov (301) 424-6421x104.
    a. Format – the report must be submitted as a PDF file.
    b. Content – the report must contain the following:
        i. Items reviewed.
        ii. List of any meetings.
        iii. Comments on design, including instances of design deficiencies to be addressed by the A/E.

7. **Delivery**

The following written deliverable items must be performed or delivered in accordance with the following schedule:

ITEM	QUANTITY	DELIVERY & PERFORMANCE
Letter Reports (see Task 'b' & 'c')	3 hard copies and 1 electronic version in PDF format.(see Section 6. Reporting Requirements)	One week after the end of the 50% and 95% Government review periods respectively. (Task b, Task c,)
Optional Commissioning Plan as (see Task 'd')	1 hard copy and 1 electronic version in PDF format.(See Section 6. Reporting Requirements.	Within 15 working days after completion of optional Task d.

8. **Government-Furnished Materials**

The Government will provide the contractor with the following:

a. The current layout of the lab space, including the surrounding areas, as provided in the Design Intent Drawings (DID) package and the Program of Requirements (POR) document.
b. Access to current combustion laboratory for review of current combustion test chamber design and access to anticipated combustion lab space
c. The testing requirements of the lab space, as defined by CPSC staff that shall include expected test chamber exhausts and existing test chamber operating procedures.
d. The 50% Design/Construction Drawings Review package for review (expected on/about January 26, 2010)
e. The 95% Design/Construction Drawings Review package for review (Expected on/about February 23, 2010).
f. Any additional information or assistance required by the Contractor for successful completion of tasks that is not inconsistent with law or government regulation.

9. **Optional Task**

If Optional Task 'd' (Line Item 2) is exercised, the contractor shall perform the work specified in Task d., Section 4, Performance of Work.

TEST CHAMBERS

1. INTRODUCTION

The U.S. Consumer Product Safety Commission (CPSC) Laboratory in Gaithersburg, MD uses five different sized environment test chambers to evaluate consumer products with respect to the products of combustion. The Large Chamber (L-chamber) is 26.1 m^3 (920 ft^3) in volume and is used to test large gas-burning appliances, such as residential gas furnaces with thermal ratings up to 120,000 BTU/hr. The Medium Chamber (M-chamber) is 9.59 m^3 (339 ft^3) in volume and is used to test unvented combustion appliances, such as portable engine-driven electric generators or gas logsets with thermal ratings up to 60,000 BTU/hr. The M-Chamber was renovated in 2003. The Small Chamber (K-chamber) is 2.83 m^3 (100 ft^3) in volume and is used to test smaller unvented gas-burning appliances, such as propane-fired camping heaters with thermal ratings up to about 20,000 BTU/hr. Finally, the smallest chamber (D-chamber) is 1.02 m^3 (36 ft^3) in volume and is used to test carbon monoxide (CO) alarms, other gas sensing devices, and small heat generating devices up to about 5,000 BTU/hr. The last chamber is the smallest and currently not attached to any systems.

This paper provides an overview of the M-chamber L-Chamber, safety and CVS systems. This paper is meant to provide background information to support understanding of the function and purpose of the newer systems being built at the new laboratory.

Although the M-chamber can be used for testing different types of unvented combustion appliances, the chamber was initially configured for testing engine-driven tools, such as gasoline-fueled portable electric generators. In the design of the new lab chambers the largest chamber will be designed to accommodate the gasoline fueled portable electric generator and other combustion appliances. Staff plans to make accommodations for a continuous sampling CVS system to be integrated into the chamber for exhaust emission analysis in steady state and transient modes. If possible, the CVS sampling system should support engine sizes nominally at 10 hp, but in addition combustion products with up to 16 hp and smaller sized gas appliances, if possible. The next largest chamber will be outfitted to test furnaces and other combustion appliances. Therefore, it will need two heat exchanger systems; one for the furnaces comfort air & one for the chamber which houses the furnace.

Some of the activities that are described below are performed manually (such as fan speed adjustment to determine ACH). We expect to automate such procedures in the future so acquired equipment should have inputs for computer controlled analog signal inputs and outputs as appropriate.

2. M-CHAMBER TEST EQUIPMENT AND SETUP (GENERATOR TESTING)

This section describes the equipment used when testing in the M-Chamber

a. Test Chamber

The test chamber is a modified environmental room manufactured by Hotpack. The internal dimensions of the chamber are approximately 2.44 m (8 ft) wide by 1.83 m (6 ft) deep by 2.13 m (7 ft) high. Access to the inside of the chamber is gained through a magnetically-sealed door. The inner walls of the chamber are constructed from enamel-coated aluminum. Penetrations through the chamber walls were added to allow for the chamber's ventilation system, gas sample lines, tracer gas injection lines, electrical and data lines, and cooling water lines for the heat exchangers. Silicon adhesive, rubber gaskets, and aluminum plates are used to seal any gaps between the chamber walls and the protrusions.

The temperature inside the chamber is measured with five thermocouples located near the five gas sample locations. The temperature can be controlled through heat removal, which is accomplished by passing chilled water through two, 8.79 kW (30,000 Btu/hr) ceiling mounted fin-and-tube heat exchangers located in the chamber. A recirculating chiller located in the building provides chilled water at a constant temperature. The flow rate of chilled water to the heat exchangers is varied using a control valve that is adjusted automatically based on the average air temperature inside the chamber. Each heat exchanger contains two fans that draw air from the center of the chamber, across the heat exchangers, and out toward the walls. Condensate that forms on the heat exchanger fins collects in drip pans and gravity drains to a condensate pump that is located outside of the chamber. An isolation valve is located on the condensate line that prevents CO leakage into the laboratory spaces.

The chamber is equipped with two fans to control the ventilation rate of the chamber. One fan is located in a supply pipe and brings fresh air from the laboratory into the test chamber. The supply air pipe consists of one 10.2 cm (4 in) diameter pipe that, after entering the top of the chamber, tees to two openings, with each opening facing a heat exchanger. The second fan is located in the exhaust pipe and exhausts air out of the chamber into an exhaust hood that vents outdoors. The exhaust piping consists of two 10.2 cm (4 in) diameter pipes inside the chamber that merge to one pipe outside the chamber. One pipe is located at the front left of the chamber and the second pipe is located at the right rear of the chamber. Both pipes exit the top of the chamber and feed the one pipe that empties into a building exhaust hood. The inlets of the exhaust pipe are located 1.14 m (3.75 ft) below the ceiling of the chamber in opposite diagonal corners (left front and right rear). Manually varying the voltage supplied to each fan controls the flow rate of air through the supply pipe and exhaust pipe. The supply and exhaust pipes each contain a manually-operated iris, located outside the chamber that allows further control of the air exchange rate.

The differential pressure between the inside of the chamber and the laboratory is measured with a magnehelic pressure gauge and a digital pressure gauge. The local pressure and temperature in the laboratory is obtained using a barometer with a built in thermometer. The relative humidity of the laboratory air is measured with a digital hygrometer.

b. Tracer Gas Injection System

Carbon monoxide and sulfur hexafluoride (SF_6) are the gases used for the tracer gas injection tests. A known concentration of CO is injected into the chamber at a desired rate using rotometers or a digital mass flow controller. A known concentration of SF_6 is injected into the chamber at a desired flow rate using a digital mass flow controller. The injection lines are located either near the supply air port (high), or at a position (low) that is representative of the exhaust port of several gasoline-fueled portable electric generators. Specific injection locations are noted, as test conditions are discussed later in the report.

c. Gas Sample Analysis Systems

The concentrations of CO and SF_6 are measured using non-dispersive infrared (NDIR) gas analyzers. The analyzer that measures CO is part of a multi-gas analyzer, capable of measuring up to five gases: carbon monoxide, carbon dioxide, oxygen, hydrocarbons, and a second carbon monoxide. Depending on how the multi-gas analyzer is configured, the gases can be measured in series from the same location or in parallel from different locations. For the characterization tests, the multi-gas analyzer was used to measure CO only. Gas samples are obtained from several locations, including the chamber, the exhaust pipes, and the laboratory. Two separate sampling systems are used to obtain gas samples from different locations in the chamber. Appendix C provides details of the equipment used and a schematic illustrating the sampling systems.

One gas sampling system measures the concentration of gases inside the chamber. Gas samples are obtained from five different locations inside of the chamber and are blended using a gas-mixing manifold. The sample points are located at the following approximate coordinates: (0.74 m, 1.80 m, 0.41 m), (2.06 m, 0.61 m, 0.56 m), (1.83 m, 1.22 m, 1.30 m), (0.43 m, 0.53 m, 1.30 m), and (1.14 m, 0.91 m, 0.90 m) from the (0, 0, 0) coordinate [1]. The five lines inside the chamber are the same length from the gas-mixing manifold that is also located inside the chamber. A high flow rate pump draws the sample from the gas-mixing manifold into a recirculation line. The recirculation line leaves the chamber at the front of the chamber's ceiling, goes through a large pump, runs down the outer wall of the chamber and reenters the chamber near the floor. A single sample line branches from the recirculation line near the centerline of the chamber. The branching line conveys a small portion of the recirculation line sample to the gas analyzers, which are plumbed in series. Water vapor is condensed out of the sample prior to entering the analyzers using a cold trap. The cold trap consists of a simple chilled-water heat exchanger.

The second sampling system measures the background concentration of CO in the laboratory or the concentration of CO in either of the exhaust pipes. Several three-way valves are used to switch between drawing the sample from the laboratory or from the exhaust pipes. The CO analyzer for this second sampling system is part of the same multi-gas analyzer used in the first sampling system.

During some tests, a second multi-gas gas analyzer is available. With this unit in place, the CO concentration in the chamber and in each exhaust pipe could be measured simultaneously.

All of the sample lines consist of 0.64 cm (1/4") stainless steel tubing and polyethylene tubing, except the recirculation line which is 0.95 cm (3/8") and made of copper tubing. Polyethylene tubing was selected, as it will not absorb CO or SF_6. The connecting fittings are made of brass and stainless steel.

d. Data Acquisition System

A data acquisition system (DAS) records the majority of test data. The system consists of a personal computer running TESTPOINT™ data acquisition software. The data is acquired at a rate between 10 seconds to 5 minutes, depending on the air exchange rate and the duration of the test. The data acquisition program records the raw voltage output from the various measuring devices (gas analyzers and thermocouples) into a data file. The data acquisition program then converts these voltage readings directly into the appropriate engineering units for concentration (percent or parts per million) and temperature (degrees Celsius). These converted values are recorded in the same data file as the raw voltages. In addition to obtaining the data electronically, these values are periodically recorded manually in a logbook during testing. The flow rates of the injection gases (CO and SF_6), the differential pressure between the chamber and laboratory, and the barometric pressure, temperature and relative humidity of the laboratory are recorded manually. Future upgrades to these sensors and the data acquisition system software will allow for these parameters to be automatically recorded.

[1] Using a right handed coordinate system, the (0,0,0) coordinate is located at the rear (side opposite the entry door), leftmost (assuming the reader is inside the chamber with his back to the door), bottom inner corner of the M-Chamber)

3. TESTS PROCEDURES

This section describes the chamber operation test procedures in detail. Although the following discussion is divided into separate tests (e.g., air exchange rate, chamber mixing, etc.), several of the separate tests are often combined during an actual test. Therefore, a single test may be used for several different evaluations.

a. Common Test Procedures

Upon receipt of each gas analyzer, the linearization of the analyzer is checked at 10 points. If the error is greater than 1 percent full scale across the entire range, a new curve is made or the analyzer is returned to the manufacturer for maintenance. A factory-authorized technician performs on-site maintenance on the analyzers twice a year.

At the start of each day, each gas analyzer is calibrated according to the instructions specified by the manufacturer of the analyzer. In general, the gas analyzers are zeroed with nitrogen gas and spanned using a certified calibration gas of known concentration. The analyzers are also checked at mid- and low-range concentrations to verify the performance of the analyzers. The sample line conveys all sample and calibration gases to the analyzers at an approximate flow rate of 0.8 slpm (1.7 ft^3/hr) and pressure of less than 6.90 kPa (1 psi).

Since the characterization tests are performed without any type of combustion appliance operating in the chamber, no heat removal is performed. However, the fans on the heat exchangers are still operated, since the fans provided mixing inside of the chamber. When the mixing fans are operated over a long period of time they tended to increase the temperature in the test chamber. Tests are conducted at ambient temperatures, which ranged from 20°C to 30°C (68°F to 86°F).

The ventilation rate of the chamber is set by first opening or closing the irises on the exhaust and the supply air pipes. Next, the exhaust fan's voltage is adjusted to the desired setting. Finally, the supply fan's voltage is adjusted until the desired differential pressure is achieved. The differential pressure of the chamber remained constant during each test.

Once the chamber ventilation is set, the data acquisition program is started and the tracer gas is injected into the chamber. Since the M-chamber is being configured to test portable gasoline-powered electric generators, carbon monoxide is injected at a rate that is expected to be representative of the CO emission rates from such equipment. Sulfur hexafluoride is injected at a rate that would provide a desired steady state concentration at the anticipated air exchange rate. The tracer gases are injected until a steady state concentration is reached. Steady state is assumed once the variation between concentrations is less than 1 percent over a period that coincided with the inverse of the air exchange rate. Therefore, at lower air exchange rates, a longer time is required to establish equilibrium.

If the steady state concentration is high enough to provide adequate decay information for air exchange rate determination, the tracer gas injection is terminated and the decay is recorded. If not, the tracer gas injection rate is increased so as to achieve a higher concentration and thus an adequate decay time.

The test is complete once the concentration of the CO and/or SF_6 is less than 2 percent of the gas analyzer's full-scale value. The data acquisition program is then stopped, and the chamber is allowed to ventilate completely before beginning the next test. As a back up to the electronic data, the concentration data are recorded manually at various times during each test. When the three-way valves are switched to toggle between drawing the sample from the laboratory, front left exhaust pipe, or the rear right exhaust pipe, the time is also recorded manually.

4 L-CHAMER TEST EQUIPMENT AND SETUP (FURNACE TESTING)

This section describes selected differences in equipment and operation between the L-Chamber and M-Chamber

e. Test Chamber

1. The test chamber is a modified environmental room manufactured by Hotpack It had an internal volume of approximately 1000 cu. ft. Access to the inside of the chamber is gained through a magnetically-sealed door. The inner walls of the chamber are constructed from enamel-coated aluminum. Penetrations through the chamber walls are added to allow for the chamber's ventilation system, gas sample lines, tracer gas injection lines, electrical and data lines, and cooling water lines for the heat exchangers. Penetrations are also added to accommodate the currently installed furnace. They include comfort and return air penetrations of approximately 16" by 20" and a exhasut vent penetration. Silicon adhesive, rubber gaskets, and aluminum plates are used to seal any gaps between the chamber walls and the protrusions.

   The temperature inside the chamber is measured with five thermocouples located near the five gas sample locations. The temperature can be controlled through heat removal, which is accomplished by passing chilled water through four, 8.79 kW (30,000 Btu/hr) fin-and-tube heat exchangers located in the chamber which are encased in stainless steel frames and draw air from the ceiling airea. The directionality is adjustable. A recirculating chiller located in the building provides chilled water at a constant temperature. The flow rate of chilled water to the heat exchangers is varied using a control valve that is adjusted automatically based on the average air temperature inside the chamber. Each heat exchanger contains fans that draw air from thetop corner aresa of the chamber, across the heat exchangers, and toward the center of the chamber. Condensate is pumped from the chamber.

   The chamber contains a number of additional sensors which have digital displays and/or electronic controls. Many of the same type measurements and controls exist on the M-Chamber however, they tend involve manual adjustments directly to the device or do not involve digital displays. The majority are listed below;

   a) Temperature: cooling water (in and out), furnace flue, furnace supply and return duct

   b) Pressure: furnace duct (differential), chamber airflow iris (in and out air), furnace vent, furnace manifold

   c) Flow: methane to furnace, air in return duct.

   d) Volts: supply and exhaust air fans

   The chamber is equipped with two fans to control the ventilation rate of the chamber. One fan is located in a supply pipe and brings fresh air from the laboratory into the test chamber, through a diffuser that spreads across the entire legngth of the chambers front wall above the entrance of the chamber. The second fan is located in the exhaust pipe and exhausts air out of the diffuser that speads across the entire bottom of the rear wall of the chamber into an exhaust hood that vents outdoors. Varying the voltage supplied to each fan controls the flow rate of air through the supply pipe and exhaust pipe. The supply and exhaust pipes each contain a digitally-operated iris, located outside the chamber that allows further control of the air exchange rate.

All sensors such as differential pressure between the inside of the chamber and the local pressure and temperature in the laboratory (obtained using a barometer with a built in thermometer) or relative humidity of the laboratory air that may not be present on the L-Chamber would be added in the new design.

f. Tracer Gas Injection System

Similar to above

g. Gas Sample Analysis Systems

The concentrations of CO and SF_6 are measured using non-dispersive infrared (NDIR) gas analyzers. The analyzer that measures CO is part of a multi-gas analyzer, capable of measuring up to five gases: carbon monoxide, carbon dioxide, oxygen, hydrocarbons, and a second carbon monoxide. Depending on how the multi-gas analyzer is configured, the gases can be measured in series from the same location or in parallel from different locations. Two separate sampling systems are used to obtain gas samples from different locations in the chamber

One gas sampling system measures the concentration of gases inside the chamber. Gas samples are obtained from five different locations inside of the chamber and are blended using a gas-mixing manifold. The five lines inside the chamber are the same length from the gas-mixing manifold that is also located inside the chamber. A high flow rate pump draws the sample from the gas-mixing manifold into a recirculation line. A single sample line branches from the recirculation line. The branching line conveys a small portion of the recirculation line sample to the gas analyzers, which are plumbed in series. Water vapor is condensed out of the sample prior to entering the analyzers using a cold trap. The cold trap consists of a simple chilled-water heat exchanger.

The second sampling system measures the background concentration of CO in the laboratory. The CO analyzer for this second sampling system is part of the same multi-gas analyzer used in the first sampling system.

When furnace testing, a second multi-gas gas analyzer is available. With this unit in place, the CO concentration in the return or comfort air or the exhaust pipe could be measured simultaneously.

All of the sample lines consist of 0.64 cm (1/4") stainless steel tubing and polyethylene tubing, except the recirculation line which is 0.95 cm (3/8") and made of copper tubing. Polyethylene tubing was selected, as it will not absorb CO or SF_6. The connecting fittings are made of brass and stainless steel.

h. Data Acquisition System

Currently, not attached but would be similar to that stated above but with additional meausurement data recorded.

5. TESTS PROCEDURES

This section describes the L chamber operation test procedures in detail. Although the following discussion is divided into separate tests (e.g., air exchange rate, chamber mixing, etc.), several of the separate tests are often combined during an actual test. Therefore, a single test may be used for several different evaluations.

a. Common Test Procedures

Listed above and similar to M chamber.

6. SAFETY SYSTEMS

Several safety systems help to insure the safety of the staff and the laboratory. The first system, a part of the sample system, measures the background concentrations of CO in the laboratory work space. Residential CO detectors are also used to continuously monitor background CO concentrations. The second system (Toxigard II) consists of two electrochemical sensors mounted in the chamber that continuously supply real-time CO and Hydrocarbon measurements to two externally (to chamber) mounted display devices. These devices have large strobes and external displays which are visible throughout the lab and from outside the building and are always operational. The CO analyzer (first system) protects staff from entering the chamber when hazardous levels of CO are in the chamber when it is turned on, but it is normally not turned on between tests. Therefore, it offers no protection from leaks, other sources of CO or explosion hazards when it is turned off but the main testing systems including gas bottles and fuel sources are either confirmed off or not functioning. The main sample system also is not real-time. The results are delayed since the sample gas is relayed through several feet of tubing to reach the analyzers. This sometimes could result in dangerously high CO levels being present in the chamber prior to the primary gas analysis system showing the levels to be high The Toxigard hydrocarbon sensor and display protect against explosion by alerting staff to dangerous levels of explosive gases prior to their reaching the minimum explosive concentration. The third system is a fire prevention system which detects dangerously high temperatures in the chamber and when appropriate releases CO_2 into the chamber. The finally safety system involves using a remote generator shut-off to terminate the generators' operation without opening the test chamber's door. A toggle switch paralleled the existing generator shut-off system. The shut off switch shorts the generator's ignition system to ground.

7. CONSTANT VOLUME SAMPLING SYSTEM (CVS)

Shown below is a schmatic of the portion of the CVS we expect would be located outside the new largest chamber. The engine exhaust is a tube leaving the chamber. The ambient air would provide up to ~30,000 cu. ft/hr to provide approximately a 1 to 10 or 1 to 12 dilution ratio. This air supply system is uncoupled from the air supply to the chamber. Not shown, but required will be another air supply system for the engine's combustion air. This should also be uncoupled from the chamber air supply system. If possible the chamber (30 ach), dilution tunnel and engine combustion air system can draw from one source, as long as the use of one of the systems does not affect the settings of the others. However, the chamber air system should not feed the other two air supply systems. A general example of a CVS diagram is presented in the figure below. (CPSC will be procuring the CVS tunnel elements subsequent to occupying the new laboratory but the new chambers will need to be able to accommodate such a system.)

Figure 2 of §1065.101—Examples of some full-flow dilution sampling configurations.

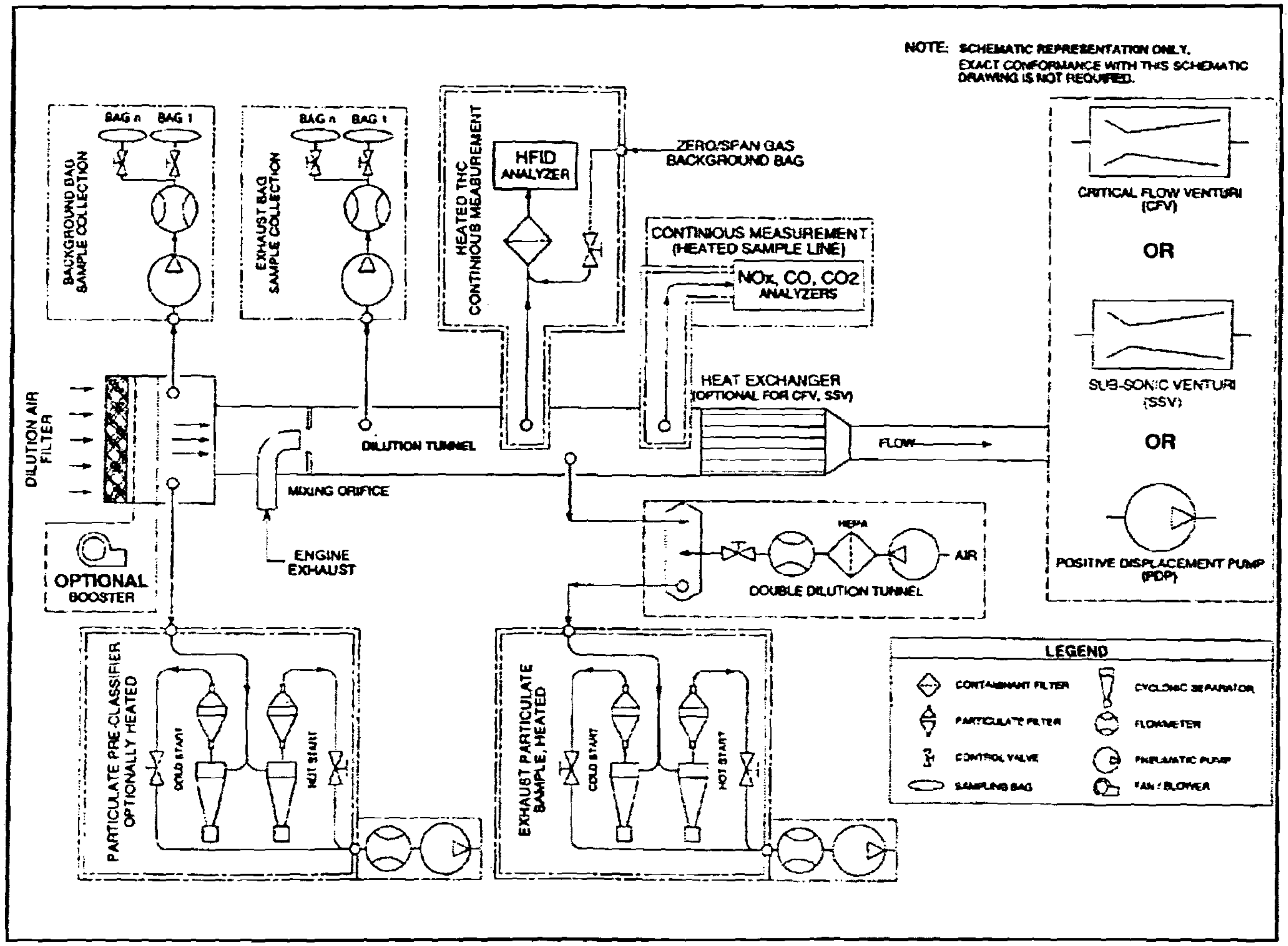

Figure 1. A CVS system from Electronic Code of Federal Regulation Title 40: Protection of Environment PART 1065—ENGINE-TESTING PROCEDURES Subpart B—Equipment Specifications **Section 1065.101**

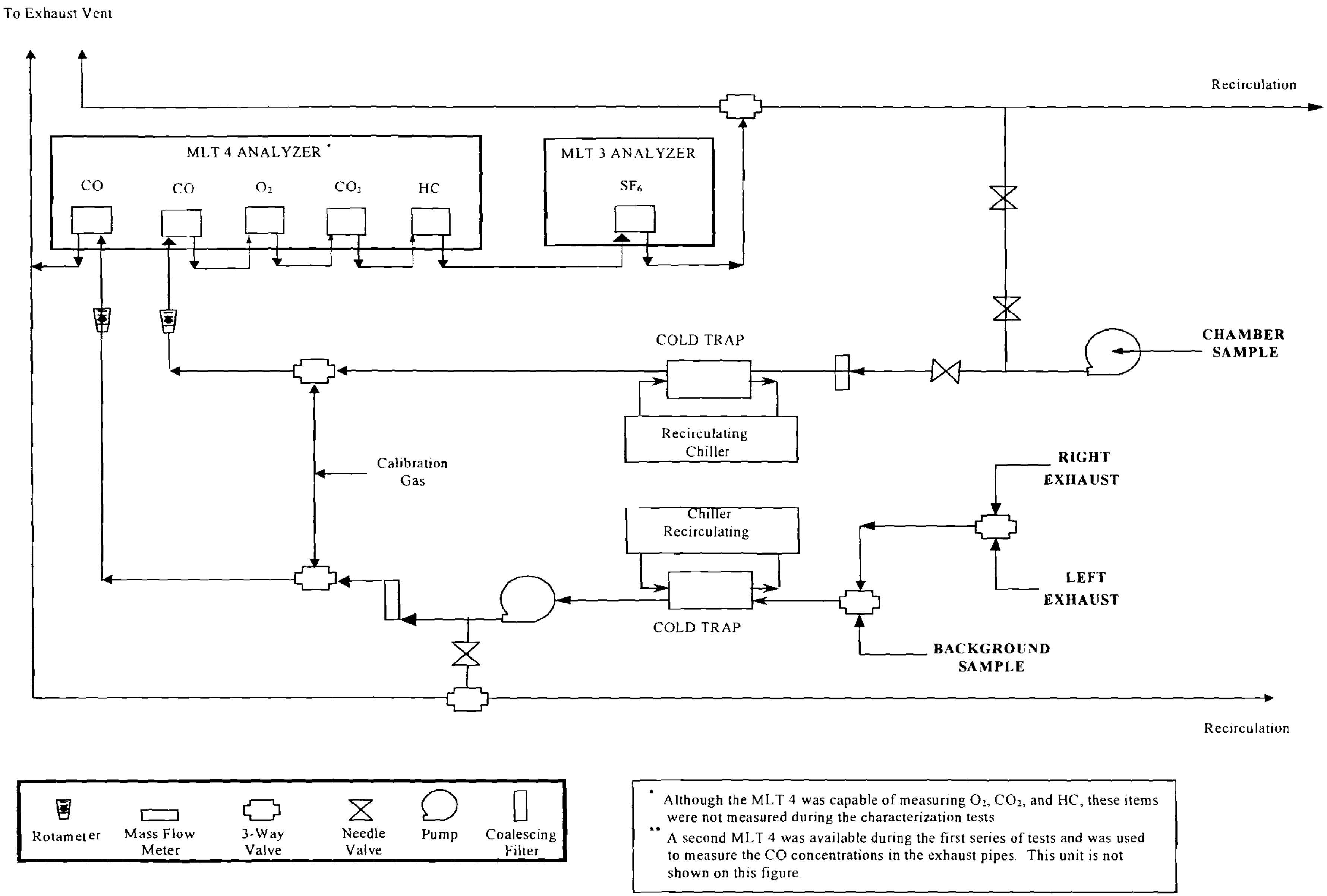

Figure 1. Medium-Chamber gas sampling system

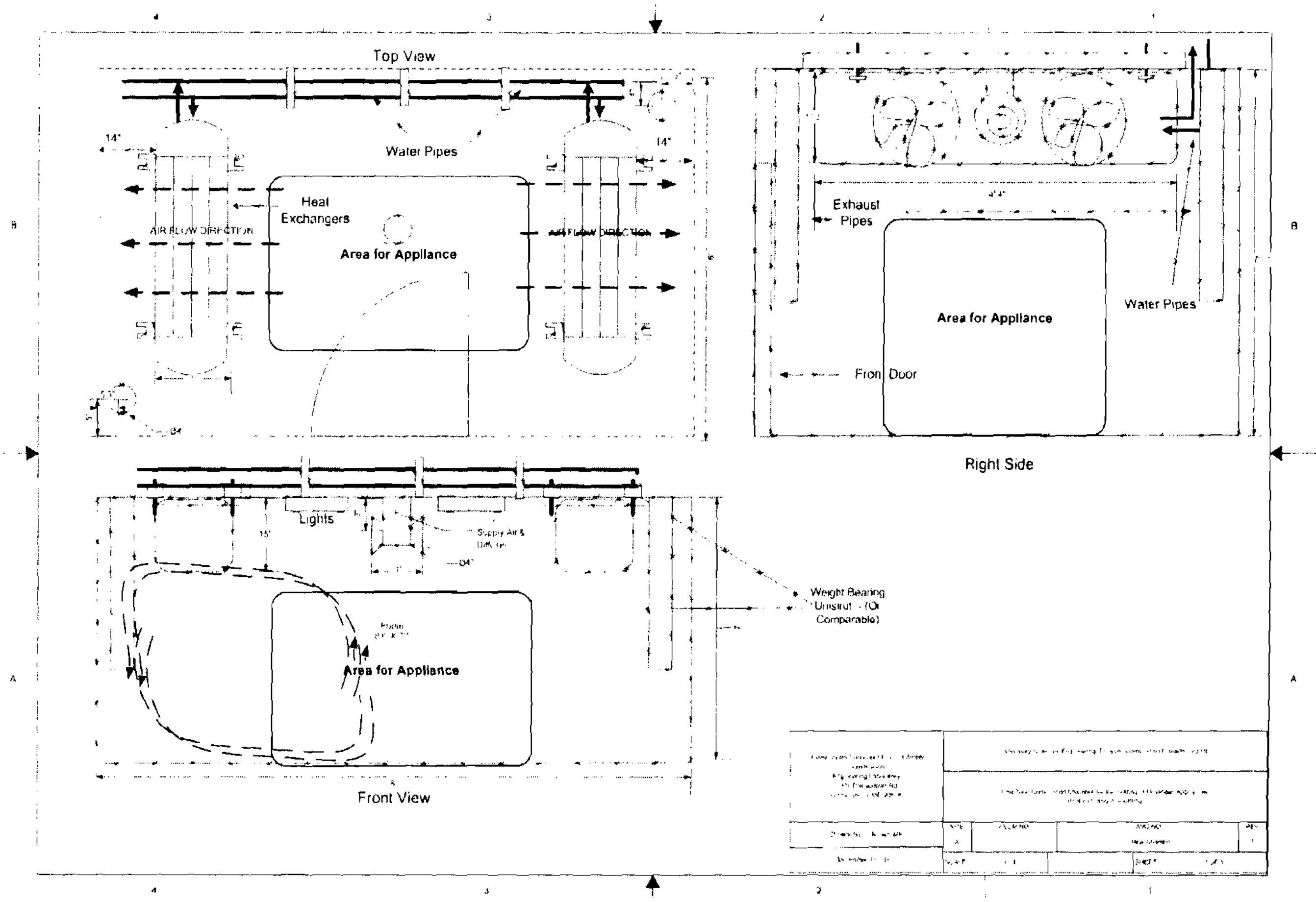

Figure 1. **Medium Chamber - Schematic**

CHAMBER TEST EQUIPMENT

Table 1. Equipment used to measure the different operating parameters of the chamber

Parameter Being Measured	Equipment Type	Manufacturer	Model	Range	Accuracy
Tracer Gas Injection Rate	Smart-Trak Mass Flow Controller- Digital	Sierra	Series 100	0-7.690 slpm CO 0-2.0 slpm SF_6	± 1.0% full scale
Tracer Gas Injection Rate	Mass Flow Controller- Digital	Sierra	810c-DR-2-MP	0- 350 sccm CO 0- 91 sccm SF_6	± 1.0% full scale
Tracer Gas Injection Rate	VF (Visi-Float®) Flowmeter	Dwyer	VFA-24-SSV VFA-22-SSV	1.0-10.0 slpm CO 0.15-1.0 slpm CO	± 5% full scale
Chamber/Room Differential Pressure	Magnehelic Pressure Gage with Transmitter	Dwyer	605-1	(-1)-1.0 inches w.c.	± 2% full scale
Chamber/Room Differential Pressure	Digital Differential Pressure Transmitter	Rosemount	3051C	(-3.0)-3.0 inches w.c.	± 0.075% full scale
Chamber Temperature	Thermocouple	Omega	Type K,	-200 to 1250°C	2°C or 0.75% of Reading, which ever is greater

Table 2. Equipment Used with the Gas Sampling Systems

Chemical Species	Location	Measuring Technique	Manufacturer	Model	Range	Accuracy
Carbon Monoxide (CO)	Chamber (Manifold)	Non-Dispersive Infrared	Rosemount	NGA 2000 (MLT 4)	0-200 ppm, 0-1000 ppm, 0-7000 ppm	1% Full Scale
Carbon Monoxide (CO)	Exhaust Piping and Outside Chamber	Non-Dispersive Infrared	Rosemount	NGA 2000 (MLT 4)	0-200 ppm, 0-1000 ppm, 0-7000 ppm	1% Full Scale
Sulfur Hexafluoride (SF_6)	Chamber (Manifold)	Non-Dispersive Infrared	Rosemount	NGA 2000 (MLT 3)	0-63 ppm	1% Full Scale
Gas Divider	Calibration Gases	Capillary Tube Type	Horiba	SGD-A10	10-point, 0-100%	0.5% Full Scale

CLAUSES

FAR Clauses incorporated in their entirety

1. 52.217-7 Option for Increased Quantity-Separately Priced Line Item (MAR 1989)

52.217-7 Option for Increased Quantity-Separately Priced Line Item (MAR 1989)
The Government may require the delivery of the numbered line item, identified in the Schedule as an option item, in the quantity and at the price stated in the Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within the period of March 30, 2010 through April 30, 2011. Delivery of added items shall continue at the same rate that like items are called for under the contract, unless the parties otherwise agree.

(End of clause)

Local Clauses incorporated in their entirety

1. LC 1a Contractor's Note
2. LC 5b Project Officer Designation
3. LC 31 Restrictions On Use Of Information

LC 1A CONTRACTOR'S NOTE

Deliveries and/or shipments shall not be left at the Loading Dock. **All deliveries shall be considered "inside deliveries"** to the appropriate room at the Consumer Product Safety Commission (CPSC) and in accordance with the instructions below. When scheduling deliveries the purchase order number shall always be referenced and all packages shall clearly display the Purchase Order Number on the outside of the cartons and/or packages, to include the packing slip.

ATTENTION GOVERNMENT VENDOR:

A. DELIVERY INSTRUCTIONS:

1. DELIVERY INSTRUCTIONS FOR LARGE OR HEAVY ITEMS:

If the shipment or item being delivered requires use of a loading dock, advance notification is required. The contractor shall contact the Shipping and Receiving Coordinator at (301) 366-7018 or Ronald Welch (301) 504-7091, forty-eight (48) hours in advance of the date the items are to arrive to schedule use of the loading dock.

LOADING DOCK HOURS OF OPERATION:
9:00 am to 11:00 am or 1:30 pm to 4:00 pm
Monday through Friday (except holidays)

Please notify contact person if there is a change in the delivery date. For changes, delays, or assistance please contact CPSC as follows:

Facilities Management Support Services (301) 504-7091and;

Project Officer: MR. CHRIS BROWN @ (301)424-6421

Upon arrival, the driver should contact the CPSC Guard, 301-504-7721, at the loading dock to obtain assistance in using freight elevators and to gain access to CPSC security areas.

2. DELIVERY INSTRUCTIONS FOR SMALL ITEMS

When delivering or shipping small items, the contractor and/or carrier service shall report to the 4th floor lobby, North Tower, 4330 East West Highway, to sign in with the CPSC guard. Upon completion of signing in, the contractor shall deliver all shipments to the Mail Room, Room 415. After delivery, delivery personnel shall promptly depart the building.

MAIL ROOM HOURS OF OPERATION:
Monday through Friday (except holidays) – 7:30 am to 5:00 pm

B. BILLING INSTRUCTIONS

Pursuant to the Prompt Payment Act (P.L. 97-177) and the Prompt Payment Act Amendments of 1988 (P.L. 100-496) all Federal agencies are required to pay their bills on time, pay interest penalties when payments are made late, and to take discounts only when payments are made within the discount period. To assure compliance with the Act, vouchers and/or invoices shall be submitted on any acceptable invoice form which meets the criteria listed below. Examples of government vouchers that may be used are the Public Vouchers for Purchase and Services Other Than Personal, SF 1034, and Continuation Sheet, SF 1035. At a minimum, each invoice shall include:

1. The name and address of the business concern (and separate remittance address, if applicable).

2. Taxpayer Identification Number (TIN).

3. Invoice date (use of invoice number in addition to invoice date is prudent but not required).

4. The contract or purchase order number (see block 2 of OF347 and block 4 of SF1449 on page 1 of this order), or other authorization for delivery of goods of services.

5. Description, price and quantity of goods or services actually delivered or rendered.

6. Shipping cost terms (if applicable).

7. Payment terms.

8. ACH Vendor Information which includes: the Financial Institution, routing transit number, and depositor account number. In addition please specify whether account is a checking account or savings account.

9. Other substantiating documentation or information as specified in the contract or purchase order.

10. Name, title, phone number and mailing address of responsible official to be notified in the event of a deficient invoice.

ORIGINAL VOUCHERS/INVOICES SHALL BE SENT TO:

Accounting Officer
Div. of Financial Services, Room 522
U.S. Consumer Product Safety Commission
4330 East-West Hwy
Bethesda, MD 20814

Invoices not submitted in accordance with the above stated minimum requirements will not be processed for payment. Deficient invoices will be returned to the vendor within seven days or sooner. Standard forms 1034 and 1035 will be furnished by CPSC upon request of the contractor.

Inquiries regarding payment should be directed to the Finance Office at 301-504-7172 or 301-504-7130.

C. PAYMENT

Payment will be made as close as possible to, but not later than, the 30th day after receipt of a proper invoice as defined in "Billing Instructions," except as follows:

When a time discount is taken, payment will be made as close as possible to, but not later than, the discount date. Discounts will be taken whenever economically justified. Otherwise, late payments will include interest penalty payments. Inquiries regarding payment should be directed to the Accounting Officer at (301) 504-7203 or 301-504-7130 or at the following address:

Accounting Officer
Div. of Financial Services, Room 522
U.S. Consumer Product Safety Commission
4330 East-West Hwy
Bethesda, MD 20814

Complaints related to the late payment of an invoice should be directed to Deborah Peebles Hodge, Director, Division of Financial Services at the same address (above).

D. INSPECTION & ACCEPTANCE PERIOD

Unless otherwise stated in the Statement of Work or Description, the Commission will ordinarily inspect all materials/services within three (3) working days after the date of receipt. The CPSC contact person will transmit disapproval, if appropriate. If other inspection information is provided in the Statement of Work or Description, it is controlling.

E. ALL OTHER INFORMATION RELATING TO THE PURCHASE ORDER

Contact: Peter Nerret, Contract Specialist (301) 504-7033

F. PROCESSING INSTRUCTIONS FOR REQUESTING OFFICES

The Purchase Order/Receiving Report (Optional Form 347 or Standard Form 1449) must be completed at the time the ordered goods or services are received. Upon receipt of the goods or services ordered, each item should be inspected, accepted (partial or final) or rejected. The Purchase Order/Receiving Report must be appropriately completed, signed and dated by the authorized receiving official. In addition, the acceptance block shall be completed (Blocks 32 a, b & c on the SF 1449 and column G and page 2 of the OF 347).
The receiving report shall be retained by the requesting office for confirmation when certifying invoices.

G. PROPERTY/EQUIPMENT PURCHASES

In the case of Purchase Orders/Receiving Reports involving the purchase and receipt of property/equipment, a copy of the Purchase Order/Receiving Report must also be immediately forwarded directly to the Administrative Services Specialist (Ron Welch) in the Facilities Management Support Services Branch (Room 416). The transmittal of Purchase Orders/Receiving Reports to the property management officer is critical to the integrity and operation of CPSC's Property Management System. Receiving officials should also forward copies to their local property officer/property custodian consistent with local office procedures.

LC 5B Project Officer Designation

a. The following individual has been designated at the Government's Project Officer for this contract:
Name: MR. CHRIS BROWN
Division: Laboratory Sciences, Mechanical Engineering
Telephone: (301) 424-6421 x104

b. The CPSC Project Officer is responsible for:

(1) monitoring the Contractor's technical progress, including surveillance and assessment of performance, and notifying the Contracting Officer within one week when deliverables (including reports) are not received on schedule in accordance with the prescribed delivery schedule.

(2) performing technical evaluation as required, assisting the Contractor in the resolution of technical problems encountered during performance; and

(3) inspection and acceptance of all items required by the contract.

c. The Project Officer is not authorized to and shall not:

(1) make changes in scope of work, contract schedules, and/or specifications to meet changes and requirements,

(2) direct or negotiate any change in the terms, conditions, or amounts cited in the contract; and

(3) take any action that commits the Government or could lead to a claim against the Government.

d. A clear distinction is made between Government and Contractor personnel. No employer-employee relationship will occur between government employees and contractor employees. Contractor employees must report directly to their company (employer) and shall not report to Government personnel.

End Clause

LC 31 Restrictions on Use of Information

a. If the Contractor, in the performance of this contract, obtains access to information such as CPSC plans, reports, studies, data protected by the Privacy Act of 1974 (5 U.S.C. 552a), or personal identifying information which has not been released or otherwise made public, the Contractor agrees that without prior written approval of the Contracting Officer it shall not: (a) release or disclose such information, (b) discuss or use such information for any private purpose, (c) share this information with any other party, or (d) submit an unsolicited proposal based on such information. These restrictions will remain in place unless such information is made available to the public by the Government.

b. In addition, the Contractor agrees that to the extent it collects data on behalf of CPSC, or is given access to, proprietary data, data protected by the Privacy Act of 1974, or other confidential or privileged technical, business, financial, or personal identifying information during performance of this contract, that it shall not disclose such data. The Contractor shall keep the information secure, protect such data to prevent loss or dissemination, and treat such information in accordance with any restrictions imposed on such information.

End clause