ANNUAL INSPECTION AND TESTING OF MEDICAL GAS SYSTEM

REQUIREMENTS

INSPECTION AND PREVENTATIVE MAINTANCE OF EQUIPMENT AT THE DR. R L YEAGER HEALTH CENTER, BUILDING A, POMONA, NY.

CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND SUPERVISION AS REQUIRED TO PERFORM ANNUAL INSPECTION AND TESTING OF MEDICAL GAS AIR, OXYGEN AND VACUUM SYSTEMS IN ACCORDANCE WITH THE CURRENT STANDARDS OF NFPA 99 AND THIS SPECIFICATION.

ALL WORK SHALL SATISFY JCAHO REQUIREMENTS.

CONTRACTOR SHALL INSPECT AND TEST THE COMPONENTS LISTED BELOW, AS DETAILED IN SECTIONS A, B, C AND D; PERFORM PERCENT CONCENTRATION, CONTAMINANT AND PARTICULATE TESTING AS DESCRIBED IN SECTION E; AND SUBMIT WRITTEN DOCUMENTATION AS OUTLINED IN SECTION F. THE WORK SHALL INCLUDE THE FOLLOWING EQUIPMENT:

MEDICAL GAS SYSTEM COMPONENTS (ESTIMATED):
- 328 OUTLETS
- 56 VALVES
- 22 ALARMS
- 1 MEDICAL AIR COMPRESSOR
- 1 VACUUM PUMP SYSTEM
- 1 OXYGEN LIQUID/MANIFOLD SYSTEM

CONTAMINANT, PARTICULATE AND PERCENT CONCENTRATION ANALYSIS:
- MEDICAL AIR ANALYSIS PER NFPA 99 (INCLUDING DEW POINT)
- MEDICAL OXYGEN

SECTION A: MEDICAL GAS/VACUUM OUTLET TESTING
CONTRACTOR SHALL PERFORM THE FOLLOWING INSPECTION SERVICES FOR EACH OUTLET:

- GAS CROSS CONNECTION TESTING AND DOCUMENTATION.
- INSPECT FOR CONDENSED WATER CONTAMINATION.
- INSPECT FOR GROSS PARTICULATE CONTAMINATION.
- FLOW RATES MEASURED AND DOCUMENTED FOR ALL GASES/VACUUM-CORRECTED FOR GAS DENSITY.
- INSPECT FOR PROPER COLOR CODING.
- PRESSURE AND VACUUM MEASURED AND DOCUMENTED.
ODOR
LEAKS-WITH EQUIPMENT CONNECTED AND REMOVED-AND DOCUMENTED.
CORRECT LABELING.
PROPER FUNCTION OF RELEASE MECHANISMS.
PROPER ENGAGEMENT OF ADAPTER IN OUTLET.
INSPECT HIGH PRESSURE CEILING HOSES.

SECTION B: MEDICAL GAS/VACUUM ALARM TESTING

MEDICAL GAS AND VACUUM SYSTEM ALARM INSPECTION WILL BE CONDUCTED ON EACH AREA AND MASTER ALARM PANEL IN THE SYSTEM.

TEST ALARM PANELS FOR VISUAL AND AUDIBLE ALERTS AND PROPER RESPONSE OF PRESS TO TEST BUTTON.

ACTIVATE AND TEST LOW PRESSURE ALARM FOR EACH AREA ALARM PANELS AND DOCUMENT ALARM ACTIVATION PRESSURE POINTS IN A MANNER THAT WILL NOT ENDANGER PATIENT SAFETY.

INSPECT AND VERIFY CORRECT LABELING PER NFPA 99 SPECIFICATIONS AND PROVIDE APPROPRIATE DOCUMENTATION INCLUDING GAS SERVICE, AREAS SERVED AND THE ALARM PANEL’S LOCATION.

SECTION C: MEDICAL GAS SHUT-OFF VALVE

CONTRACTOR SHALL PERFORM THE FOLLOWING INSPECTION SERVICE FOR EACH SHUT OFF VALVE:
CORRECT LABELING NFPA 99 WORDING, AREAS SERVED, TYPE GAS, ETC.
CORRECT LOCATION IN PIPING SYSTEM.
LEAK INSPECTION WITH VALVE OPEN.
LEAK INSPECTION WITH VALVE CLOSED (MOMENTARILY), WHERE POSSIBLE.
ANY RELATED SAFETY PROBLEMS UNCOVERED.
DOCUMENTATION AND INVENTORY OF ALL VALVES AND THEIR COMPLIANCE WITH THE APPLICABLE CODES ON THE VALVE INSPECTION RECORD.
VALVE PRESSURE/VACUUM GAUGE PROPERLY LOCATED IN RELATION TO OTHER MEDICAL GAS COMPONENTS.

SECTION D: MEDICAL GAS SOURCE SUPPLY

CENTRAL SYSTEMS FOR OXYGEN, MEDICAL AIR, VACUUM, AND NITROUS OXIDE SHALL BE INSPECTED PER NFPA 99 SPECIFICATIONS.
VERIFY AND DOCUMENT THE CORRECT TYPE, CONFIGURATION AND LOCATION OF THE PARTICULAR CENTRAL SYSTEM.
VERIFY AND DOCUMENT THE PRESENCE OF PROPER SAFETY FEATURES.
VERIFY AND DOCUMENT THE PRESENCE OF ALL FLEXIBLE CONNECTIONS.
VERIFY AND DOCUMENT THE PRESENCE OF ADEQUATE RESERVE SYSTEM(S).
INSPECT ALL COMPRESSORS AND PUMPS TO DETERMINE CYCLING PRESSURES, LOCATION OF INTAKE AND EXHAUST DUCTS, PROPER FILTRATION AND PRESENCE OF EMERGENCY ELECTRICAL POWER AND OTHER REQUIREMENTS PER NFPA 99 SPECIFICATIONS.
DOCUMENTATION AND REPORT ANY INCONSISTENCIES OR VIOLATIONS OF ANY APPLICABLE CODES OR STANDARDS.

SECTION E: MEDICAL GAS CONTENT & CONTAMINANT TESTING +
ALL % CONTENT AND GASEOUS CONTAMINANTS ANALYZED BY GAS CHROMATOGRAPHY.

MEDICAL AIR-NFPA 99:

- OXYGEN CONTENT, PLUS/MINUS 0.1%
- CARBON DIOXIDE, PPM
- CARBON MONOXIDE, PPM
- TOTAL GASEOUS HYDROCARBONS, AS METHANE, PPM
- PRESSURE DEW POINT ANALYSIS (WATER VAPOR CONTENT) DEGREES C
- PARTICULATES-QUANTITATIVE (GRAVIMETRIC) FILTRATION STUDY
- LIQUID HYDROCARBONS
- CONDENSED WATER (ON SITE OBSERVATION)
- ODOR (ON SITE OBSERVATION)

MEDICAL OXYGEN:

- OXYGEN CONTENT, PLUS/MINUS 0.1%
- CARBON DIOXIDE, PPM
- CARBON MONOXIDE, PPM
- TOTAL GASEOUS HYDROCARBONS, AS METHANE, PPM
- PARTICULATES-QUANTITATIVE (GRAVIMETRIC) FILTRATION STUDY
- ODOR (ON SITE OBSERVATION)

+REPORTED VALUES-IN ADDITION, EACH MEDICAL GAS IS ANALYZED BY GAS CHROMATOGRAPHY FOR ALL CONSTITUENTS, THEREBY TESTING FOR CROSS CONNECTED GASES. Example: OXYGEN IS ALSO TESTED FOR NITROUS OXIDE AND NITROGEN.

PPM= PARTS PER MILLION
SECTION F: DOCUMENTATION & CONSULTATION

CONTRACTOR SHALL PROVIDE THE FOLLOWING DOCUMENTATION AND

SYSTEM SUMMARY (PROBLEMS REVEALED AND RECOMMENDED SOLUTIONS). LIFE-THREATENING PROBLEMS SHALL BE REPORTED IMMEDIATELY UPON THEIR DETECTION TO THE DIRECTOR OF RESPIRATORY CARE AND/OR THE DIRECTOR OF ENGINEERING. IN ADDITION, THESE PROBLEMS SHALL BE HIGHLIGHTED IN THE FINAL DOCUMENTATION.

CONTRACTOR SHALL CONDUCT A POST-INSPECTION SUMMARY CONFERENCE WITH THE DIRECTOR OF RESPIRATORY CARE AND THE DIRECTOR OF ENGINEERING BEFORE LEAVING THE PREMISES.

DETAILED TEST MEASUREMENTS SHALL BE INCLUDED FOR EACH OUTLET, ALARM AND CENTRAL SYSTEM INSPECTED. THESE LINE ITEM REPORTS SHALL ADDITIONALLY LIST DISPOSITION OF EACH ITEM INSPECTED AND INDICATE IN THE FINAL DOCUMENTATION ITS SUITABILITY FOR PATIENT USE.

THE RAW DATA, LINE ITEM REPORT AND SYSTEM SUMMARY COMPRISING THE FINAL DOCUMENTATION SHALL BE PREPARED IN WRITING FORM AND FORWARDED TO THE DIRECTOR OF ENGINEERING WITHIN TWO WEEKS FOLLOWING THE SITE VISIT. THE REPORT SHALL PROVIDE THE HOSPITAL WITH A COMPLETE INVENTORY OF ALL MEDICAL GAS SYSTEM COMPONENTS BY LOCATION, GAS TYPE, AND QUANTITY.

UNLIMITED FREE PHONE CONSULTATION SHALL BE PROVIDED FOLLOWING EACH ON-SITE VISIT TO COMPLETELY RESOLVE ANY PROBLEMS THAT MAY BE UNCOVERED DURING THE TESTING AND INSPECTION.

GENERAL CONDITIONS:

CONTRACTOR'S COMPANY SHALL HAVE A MINIMUM OF THREE (3) YEARS EXPERIENCE IN THE INSPECTION AND TESTING OF MEDICAL GAS SYSTEMS AS SPECIFIED HEREIN AND SHALL SUBMIT WITH THEIR BID, A LIST OF FIVE SUCH INSPECTIONS COMPLETED WITHIN THE LAST YEAR. LIST SHALL INCLUDE FACILITY NAME, WORK PERFORMED, CONTACT PERSON, AND TELEPHONE NUMBER.
TECHNICIAN PERFORMING WORK SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE IN MEDICAL GAS SYSTEM INSPECTION AND TESTING.

ALL WORK SHALL BE SCHEDULED AND COMPLETED WITHIN ONE MONTH OF AN AWARD DATE.

BIDDERS ARE ENCOURAGED TO VISIT THE JOB SITE TO VERIFY ALL FIELD CONDITIONS. VISITS CAN BE SCHEDULED BY CALLING MR. RAY LYNCH AT 845-364-2757.

BIDDERS SHALL SUBMIT PRICING PER OUTLET, VALVE, ALARM GAS SYSTEMS, MEDICAL AIR ANALYSIS AND OXYGEN ANALYSIS.

BIDDER SHALL SUBMIT SAMPLE OF INSPECTION AND ANALYSIS REPORT WITH THEIR BID.

BIDDER SHALL INDICATE THE NAME AND ADDRESS OF THE TESTING LAB USED FOR THE MEDICAL AIR AND OXYGEN ANALYSIS.