



State of Utah

GARY R. HERBERT
Governor

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Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

DAQE-AN0122260009-10

December 2, 2010

Michael Bosko
L-3 Communications Incorporated
640 N. 2200 W.
Salt Lake City, UT 84116

Dear Mr. Bosko:

Re: Approval Order: Modifications to AO (DAQE-AN0122260008-09) to Change Equipment and Increase Natural Gas Consumption
Project Number: N012226-0009

The attached document is the Approval Order for the above-referenced project. Future correspondence on this Approval Order should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. The project engineer for this action is Enqiang He, who may be reached at (801) 536-4010.

Sincerely,

M. Cheryl Heying, Executive Secretary
Utah Air Quality Board

MCH:EH:sa

cc: Salt Lake Valley Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

**APPROVAL ORDER: Modifications to AO (DAQE-
AN0122260008-09) to Change Equipment and
Increase Natural Gas Consumption**

**Prepared By: Enqiang He, Engineer
Phone: (801) 536-4010
Email: ehe@utah.gov**

APPROVAL ORDER NUMBER

DAQE-AN0122260009-10

Date: December 2, 2010

**L-3 Communications Incorporated
Electronic Communications Equipment Manufacturing Plant
Source Contact:
Mr. Michael Bosko, Environmental Manager
Phone: (801) 594-2035**

**M. Cheryl Heying
Executive Secretary
Utah Air Quality Board**

Abstract

L-3 Communications Inc. operates an electronic communications equipment manufacturing plant in Salt Lake City, Salt Lake County. The source has requested a modification to its AO (DAQE-AN0122260008-09) to change equipment and increase natural gas consumption. Salt Lake City is a nonattainment area of the NAAQS for PM₁₀, PM_{2.5} and SO₂, and is a maintenance area for ozone and CO. NSPS and NESHAP regulations do not apply to this source. Title V does not apply to this source. The emissions, in tons per year, will increase as follows: PM₁₀ (including PM_{2.5}) 0.03, PM_{2.5} 0.03, NO_x 0.41, SO₂ 0.00, CO 0.34, and VOC 0.02. The potential to emit totals, in tons per year, will be as follows: PM₁₀ (including PM_{2.5}) = 1.58, PM_{2.5} = 1.58, NO_x = 12.67, SO₂ = 0.36, CO = 9.11, VOC = 9.49, and HAPs = 5.81.

This air quality AO authorizes the project with the following conditions and failure to comply with any of the conditions may constitute a violation of this order. This AO is issued to, and applies to the following:

Name of Permittee:

L-3 Communications Incorporated
640 N 2200 W
Salt Lake City, UT 84116

Permitted Location:

Electronic Communications Equipment
Manufacturing Plant
640 North 2200 West
Salt Lake City, UT 84116

UTM coordinates: 419,600 m Easting, 4,515,000 m Northing, UTM Zone 12
SIC code: 3669 (Communications Equipment, NEC)

Section I: GENERAL PROVISIONS

- I.1 The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]
- I.2 Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]
- I.3 All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401-8]
- I.4 The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring. [R307-150]
- I.5 The owner/operator shall comply with UAC R307-107. General Requirements: Unavoidable Breakdowns. [R307-107]
- I.6 All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]

- I.7 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded.
[R307-401-4]

Section II: SPECIAL PROVISIONS

II.A The approved installations shall consist of the following equipment:

- II.A.1 **A communications equipment manufacturing plant**
Plant-wide
- II.A.2 **Solvent Degreaser**
One (1) top solvent vapor degreaser equipped with cover
Location: Printed Circuit Card Area, BLDG D
- II.A.3 **Cleaning Station**
One (1) solvent cold cleaning station with two tanks equipped with cover
Location: Printed Circuit Card Area, BLDG D
- II.A.4 **Cleaner**
One (1) inline cleaner, Speedline
- II.A.5 **Soldering Machine**
One (1) inline Wave Soldering Machine
Location: Printed Circuit Card Area, BLDG D
- II.A.6 **Vent Hoods**
Location: a. Two (2) hoods at Material Science, BLDG D
b. Coating/Bonding, 2 hoods, BLDG D
c. Six (6) Slotted type hoods, BLDG D, Potting/Bonding
d. Two (2) vent hoods, BLDG E, Plating
- II.A.7 **Vent Hoods**
Location: e. Five (5) slotted type vents, BLDG D, Alodine
f. Two (2) slotted type vents, BLDG D, Stenciling
- II.A.8 **Ovens**
Location: a. Coating/Bonding, BLDG D
b. Five (5) ovens, BLDG D, Potting/Bonding
c. Despatch Oven vented, BLDG D, Machine Shop
d. Seven (7) ovens, BLDG E, Hybrid Lab

- e. Mechanical convection oven, BLDG E, Antenna Bid
- f. One (1) Blue M oven, BLDG D, Brick
- g. Blue M, BLDG D, CCA

II.A.9 **Ovens**

- Location:
- h. Blue M, Yamato, Blue M, and Despatch ovens, BLDG D, SMT
 - i. Vitronics Soltec XPM, BLDG D, CCA/SMT
 - j. One (1) Despatch oven, BLDG D/Harnessing eastside
 - k. Two (2) VWR ovens, BLDG D, Material Science
 - l. One (1) vacuum, VWR oven, BLDG D, Material Science
 - m. One (1) Yamato oven, BLDG E, Room 202, labeling

II.A.10 **Paint Booth Area**

- Location:
- a. Recycle machine solvent, vented, BLDG CA
 - b. Two (2) paint booths equipped with filters in Building CA
 - c. Outside Product Painting areas
 - d. HVLP Spray guns
 - e. Recycle machine solvent, BLDG CA (Quantity: 4)

II.A.11 **Generator**

One (1) natural gas-fired standby generator rated at 75 kW (located at BLDG F)

II.A.12 **Miscellaneous Equipment**

Miscellaneous small boilers, hot water heaters and area heaters, bench top electronic assembly soldering and cleaning, small benchtop parts cleaning beakers (less than 1 liter), one diesel crane truck, forklifts including one diesel forklift, and solder pots of various sizes

II.A.13 **Generators**

Four (4) diesel-fired mobile generators

II.A.14 **Coating Machines**

Two (2) Die Max PVA, coating machines, piped ventilation located at BLDG D, P/B

II.A.15 **Generators**

One (1) diesel and one (1) natural gas-fired emergency power systems located at BLDG F

II.A.16 **Generator**

One (1) natural gas-fired stand-by generator rated at 88 kW located at BLDG C

II.A.17 **Boiler**

One (1) natural gas-fired boiler rated at 3.266 MMBtu/hr located at BLDG D

II.A.18 **Boiler**

One (1) natural gas-fired boiler rated at 3.65 MMBtu/hr located at BLDG E

II.A.19 **Boilers**

Two (2) natural gas-fired boilers each rated at 3.08 MMBtu/hr located at BLDG F

- II.A.20 **Boiler**
One (1) natural gas-fired steam boiler rated at 760 Btu/hr located at BLDG E

- II.A.21 **Boiler**
One (1) natural gas-fired boiler rated at 2.36 MMBtu/hr located at BLDG D

- II.A.22 **Generator**
One (1) natural gas-fired stand-by generator* rated at 100 kW located at BLDG E

- II.A.23 **Generator**
One (1) natural gas-fired stand-by generator* rated at 100 kW located at BLDG CA

- II.A.24 **Generator**
One (1) natural gas-fired stand-by generator* rated at 100 kW located at BLDG Z

- II.A.25 **Generator**
One (1) emergency generator* rated at 100 kW located at BLDG D by the Wood Shop

- II.A.26 **Power Washes**
Three (3) diesel power washes*
Location: Facilities

- II.A.27 **Flushing Station**
One (1) flushing station*, Bioact, vent
Location: BLDG D, Repair Lab

- II.A.28 **Cleaning Equipment***
 - a. Fluorinert cleaner, piped vent, located at BLDG D CCA/SMT
 - b. Stencil cleaner aqueous, UltraSonic, located at BLDG D CCA/SMT
 - c. Aqueous cleaner, SMT series, piped vent, located at BLDG D Coating
 - d. Stencil cleaner, MPM/AccuFlex, located at BLDG D CCA/SMT

- II.A.29 **Misc. Equipment***
 - e. Auto paste dispenser, GPD, located at SMT BLDG D - eastside
 - f. Screen printer, DEK, located at SMT BLDG D - eastside
 - g. Reflow oven, XPM3, located at SMT BLDG D
 - h. Fume extractor, IP systems, located at SMT BLDG D
 - i. Fume extractor, IP systems, located at SMT BLDG D

- II.A.30 **Misc. Equipment***
 - j. Five (5) units of Mori Seiki with condensers, located at BLDG D Machine Shop
 - k. one (1) Mori Seiki without condenser, located at BLDG D Machine Shop
 - l. Two (2) units of Mazak without condensers, located at BLDG D Machine Shop
 - m. EDM Sodick AQ55L, located at BLDG D Machine Shop
 - n. one (1) sander, located at BLDG D Machine Shop
 - o. one (1) Ionic cleaner, located at BLDG D Coating

- II.A.31 **Cleaning Booth**
One (1) cleaning booth* located at SRA

- II.A.32 **Misc. Equipment**
One (1) 3D machine*, Object, located at BLDG D Material Science Lab

- II.A.33 **Misc. Equipment**
One (1) spectrometer*, Buic, located at BLDG D Material Science Lab

*New equipment

II.B Requirements and Limitations

II.B.1 **Plant-wide Requirements and Limitations**

II.B.1.a L-3 Communications Inc. shall notify the Executive Secretary in writing when the installation of the new equipment listed in Condition #II.A has been completed and is operational. To ensure proper credit when notifying the Executive Secretary, send your correspondence to the Executive Secretary, attn: Compliance Section.

If the construction and/or installation have not been completed within 18 months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the construction and/or installation. At that time, the Executive Secretary shall require documentation of the continuous construction and/or installation of the operation and may revoke the AO. [R307-401-18]

II.B.1.b Visible emissions from any emissions point shall not exceed 20 percent opacity except where specified otherwise. [R307-401-8]

II.B.1.b.1 Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-401-8]

II.B.2 **Conditions on Natural Gas Combustion Equipment**

II.B.2.a Visible emissions from natural gas combustion equipment shall not exceed 10% opacity. [R307-401-8]

II.B.2.a.1 Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-401-8]

II.B.2.b The following consumption limits shall not be exceeded:

28,453 decatherms of natural gas per rolling 12-month period
100 hours for each natural gas-fired generator per rolling 12-month period. [R307-401-8]

- II.B.2.b.1 To determine compliance with a rolling 12-month total, the owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months. Records of consumption shall be kept for all periods when the plant is in operation. Consumption shall be determined by bill statements from the utility company. [R307-401-8]
- II.B.2.b.2 Natural gas-fired generators shall be used for electricity-producing operation only during the periods when electric power from the public utilities is interrupted, or for regular maintenance of the generators. Records documenting generator usage shall be kept in a log and they shall show the date the generator was used, the duration in hours of the generator usage, and the reason for each generator usage. [R307-401-8]
- II.B.2.b.3 Propane may be used as an alternative fuel during natural gas curtailment. If any other fuel is to be used, an AO shall be required. [R307-401-8]

II.B.3 **Conditions on Diesel fuel Combustion Equipment**

- II.B.3.a Visible emissions from diesel-fuel combustion equipment shall not exceed 20% opacity. [R307-401-8]
 - II.B.3.a.1 Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-401-8]
 - II.B.3.b The sulfur content of diesel burned shall not exceed 0.05 percent by weight. Sulfur content shall be determined by ASTM Method D2880-71 or D-4294-89, or approved equivalent. The percent by weight of the sulfur contained in the fuel can be obtained from the fuel oil certifications. Certification of fuels shall be either by L-3 Communications Inc.'s own testing or test reports from the fuel marketer. Records of fuel supplier's test report on sulfur content shall be available on-site for each load delivered. [R307-401-8]

II.B.4 **Conditions on Paint Booths, Degreasers and Cleaning Stations**

- II.B.4.a Visible emissions from all degreasing stations and painting operations shall not exceed 5% opacity. [R307-401-8]
 - II.B.4.a.1 Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-401-8]
 - II.B.4.b The paint spray booths shall be each equipped with a set of paint arrestor particulate filters, or equivalent, to control particulate emissions. All air exiting the booth shall pass through this control system before being vented to the atmosphere (outside building/operation). The filters shall be operated and replaced in accordance with manufacturer's recommendations. Equivalency determinations, when requested by the owner/operator, shall be submitted to the Executive Secretary for approval. [R307-401-8]

II.B.4.c The plant-wide emissions of VOCs and HAPs shall not exceed:

- 9.42 tons per rolling 12-month period for VOCs
- 0.50 lbs per rolling 12-month period for chromium VI
- 43.02 lbs per rolling 12-month period for other chromium compounds
- 11.70 lbs per rolling 12-month period for formaldehyde
- 0.30 lbs per rolling 12-month period for nickel
- 3,072.00 lbs per rolling 12-month period for toluene
- 3,002.00 lbs per rolling 12-month period for xylene
- 2.72 tons per rolling 12-month period for all other volatile HAPs*, and
- 5.81 tons all HAPs combined per rolling 12-month period

* Including antimony, benzene, ethylene glycol dimethyl ether, epoxy butane, ethylbenzene, glycol ether, hexane, hydroquinone, methanol, methyl methacrylate, methylene chloride, methyl isobutyl ketone, polyglycol monoether, and phenol. [R307-401-8]

II.B.4.c.1 Compliance with each of the limitations shall be determined on a rolling 12-month total. Based on the twentieth day of each month, a new 12-month total shall be calculated using data from the previous 12 months.

The VOC and HAP emissions shall be determined by maintaining a record of VOC- and HAP-emitting materials used each month. The record shall include the following data for each material used:

- A. Name of the VOC- and HAP-emitting material, such as: paint, adhesive, solvent, thinner, reducers, chemical compounds, toxics, isocyanates, etc.
- B. Density of each material used (pounds per gallon)
- C. Percent by weight of all VOC and HAP in each material used
- D. Gallons of each VOC- and HAP-emitting material used
- E. The amount of VOC and HAPs emitted monthly by each material used shall be calculated by the following procedure:

$$\text{VOC} = (\% \text{ VOC by Weight})/100 \times [\text{Density (lb/gal)}] \times \text{Gal Consumed} \times 1 \text{ ton}/2000 \text{ lb}$$

$$\text{HAP} = (\% \text{ HAP by Weight})/100 \times [\text{Density (lb/gal)}] \times \text{Gal Consumed} \times 1 \text{ ton}/2000 \text{ lb}$$

- F. The amount of VOC or HAPs emitted monthly from all materials used
- G. The amount of VOCs or HAPs reclaimed for the month shall be similarly quantified and subtracted from the quantities calculated above to provide the monthly total VOC or HAP emissions. [R307-401-8]

II.B.4.d The VOC-containing materials and VOC-laden rags shall be stored in covered containers (except when in use). [R307-401-8]

PERMIT HISTORY

This AO is based on the following documents:

Incorporates	additional information from the meeting dated September 20, 2010
Incorporates	additional information dated August 16, 2010
Incorporates	additional information dated July 15, 2010
Is Derived From	the NOI dated March 11, 2010
Supersedes	the AO (DAQE-AN0122260008-09) dated April 1, 2009

ADMINISTRATIVE CODING

The following information is for UDAQ internal classification use only:

Salt Lake County
CDS B
Nonattainment or Maintenance Area

ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CO	Carbon monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent - 40 CFR Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ	Division of Air Quality (typically interchangeable with UDAQ)
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
GHG	Greenhouse Gas(es) - 40 CFR 52.21 (b)(49)(i)
GWP	Global Warming Potential - 40 CFR Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO _x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM ₁₀	Particulate matter less than 10 microns in size
PM _{2.5}	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO ₂	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
UDAQ	Utah Division of Air Quality (typically interchangeable with DAQ)
VOC	Volatile organic compounds