



AlliedSignal Inc.
Nuclear/Fluorine Specialties
Route 45 North
P.O. Box 430
Metropolis, IL 62960 USA

618 524 2111
618 524 6239 Fax

November 25, 1996

Certified Mail:
P-466-673-310

Mr. Michael Lamastra
Licensing Section 2, Licensing Branch
Division of Fuel Cycle Safety
& Safeguards, NMSS
US Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: Source Material License SUB-526
Docket 40-3392 (Tac No. L30898)

Dear Mr. Lamastra:

We have provided the following additional information you requested by letter dated October 29, 1996. We have enclosed six (6) copies of amendment replacement license pages.

A vertical bar is used in the right margin to note changes made.

Question No. 1: (Section 1.4- Possession Limits) *Specify the amount of depleted uranium that is being requested. Please be advised that the NRC, under License No. SUB-526, may authorize limited amounts of depleted uranium for testing purposes. Since depleted uranium is source material, it must be licensed through the agreement state of Illinois if it is not used for purposes directly related to the chemical conversion of uranium ore concentrates into uranium hexafluoride.*

Response: We request that the Metropolis Works (MTW) be allowed to possess up to 150 pounds of depleted uranium.

Question No. 2: (Section 1.6.8- Exemption and Special Authorizations) *The amendment application removes the requirement that employees must monitor clothes and shoes before entering the medical facility. Instead, employees with "visible removable contamination on their person are required to change clothing, decontaminate, or don protective clothing..." Since contamination is not always visible (especially on shoes), how will AlliedSignal ensure that workers entering the medical facility (excluding emergencies) do not have spreadable contamination on their person?*

Response: We request an increase in the allowable contamination level from 200 dpm/100 cm² to 1,000 dpm/100 cm² for persons entering the medical facility. This is the same limit for persons leaving the MTW facility.

9612060044 961125
PDR ADOCK 04003392
C PDR

000019

NIF01/1

Mr. Michael Lamastra
US NRC
Page 2

Question No. 3: *(Section 3.2.3- Technical Requirements, Work-area Air Sampling) In the current license, AlliedSignal states that the filters of the 56 (fixed) continuous work area samplers will be changed at two hour intervals during periods of abnormal operating conditions. The amendment application states that "air samples are usually or normally changed at two-hour intervals." What criteria will be used to determine the frequency of changing the air sampling filters during periods of abnormal activity?*

Response: We request that the license wording be changed to indicate that, during periods of abnormal activity, air samples will be changed at two (2) hour intervals beginning with the completion of decontamination and ending with the decrease in air activity to 30% of the Derived Air Concentration (DAC).


Question No. 4: *(On page 9-17 (September 1, 1996) two paragraphs concerning the maintenance of a "Fire Prevention Plan" including reference to the mutual aid agreement with the County Fire Department have been deleted. If this was intentional, please justify this change.*

Response: We have updated this action plan and two paragraphs which were inadvertently deleted from this page have now been reinstated.

Please also note the license pages 2-8 and pages 10-2 through 10-5, dated September 1, 1996, are included with this submission.

If you have any additional questions, please contact me at (618) 524-6220 or H. C. Roberts at (618) 524-6345.

Sincerely,



M. D. Kosmider
Plant Manager

MDK/sm

Enclosures

cc: (without attachments)
R. Boucher - (MEY-4)
M. L. Shepherd

P. G. Gasperini
J. E. Pratte

H. C. Roberts

Chapter 1

Standard Conditions and Special Authorizations

1.1 Name, Address, and Corporate Information

The UF₆ conversion plant is owned and operated by AlliedSignal Inc. Corporate headquarters are located in Morristown, New Jersey. The plant is located in Massac County, Illinois near the City of Metropolis. The plant mailing address is:

AlliedSignal Inc.
P. O. Box 430
Metropolis, IL 62960

1.2 Site Location

The AlliedSignal Metropolis Plant is located on approximately 1000 acres of land in Massac County at the southern tip of Illinois, along the north bank of the Ohio River. The site perimeter is formed by U.S. Highway 45 to the north, the Ohio River to the south, an industrial coal blending plant to the west and privately owned, developed land to the east. Plant operations are conducted in a double fenced-in, restricted area covering approximately 59 acres in the north-central portion of the site.

The city of Metropolis (population approximately 7,000) is located approximately one mile SE of the site. The nearest school is approximately 2 miles ESE, the nearest permanent residence is 1850 feet NNE of the Facility.

1.3 License Number and Period of License

A 10-year renewal of Source Material License SUB-526 is requested.

1.4 Possession Limits

A source material possession limit of 150 million pounds (6.8E⁷ kg) is requested. The source material consists of natural uranium primarily as: uranium ore concentrates, UO₂, UF₄, and UF₆, chemical intermediates of these compounds. A possession limit of 150 pounds (68 kg) is requested for depleted natural uranium. Product UF₆ contains about 67.6% U-nat. and is possessed as a liquid, solid, or a gas. Authorization is also requested for a 100 millicurie Cs¹³⁷ sealed calibration source, and <1μCi/yr quantity control samples.

Date: September 1, 1996

- 1.6.2 Sealed sources shall be subject to the leak testing and actions specified in, "License Condition for Leak Testing Sealed Byproduct Material Sources," dated April 1993.
- 1.6.3 Release of equipment or packages from the plant site, or to uncontrolled areas on-site shall be in accordance with, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source or Special Nuclear Material", dated April 1993.
- 1.6.4 Notwithstanding provisions which may be allowed under the Facility Decommissioning Plan, no licensed material shall be buried on-site without specific approval by the Nuclear Regulatory Commission.
- 1.6.5 For purposes of this license condition section of the license renewal application, the term "are" shall be interpreted as "shall be" in all instances where this term is used to denote services or actions by the licensee.
- 1.6.6 For purposes of this license the term "Health Physicist" shall mean the Health Physics Supervisor, a Health Physics Specialist, or a Supervisor of Health Physics Technicians.
- 1.6.7 The licensee requests authorization to receive quality control samples containing any licensed material between atomic numbers 1-100. The total activity in such samples shall not exceed one (1) microcurie per year.
- 1.6.8 An exemption to 40.60(b)(3) is requested for the on-site Medical Facility. Plant employees routinely enter the Medical Facility (wearing plant clothing) for physical exams, minor first aid, and medication. An exemption is requested for those employees who enter the medical facility for minor first aid treatment, or other unplanned medical treatment, with spreadable contamination on their person. Each employee who enters the facility for unplanned medical treatment shall monitor clothing and shoes prior to entry. If contamination is detected at levels greater than 1000 DPM/100 cm² (total, fixed + removable, alpha, and beta-gamma), the employee shall don shoe covers or disposable coveralls as appropriate. The Medical Facility shall be monitored daily (Monday through Friday during operation) for removable alpha contamination. Removable alpha contamination which exceeds 200 DPM/100 cm² shall be reported to NRC as an incident in accordance with 40.60(b)(3).

Date: September 1, 1996

In addition to the analysis of gaseous emissions, operating personnel provide continuous surveillance of the operation of pollution control equipment. Additional samples, visual observation, and other precautions are taken as necessary to ensure optimum performance of pollution control equipment.

Laboratory hoods which are routinely used to handle radioactive materials are checked monthly to measure face velocity. If the average face velocity does not exceed 100 linear feet per minute, the hood will not be used for radioactive materials.

3.2.3 Work-Area Air Sampling

The air sampling and analysis program shall be conducted in accordance with the following:

There are currently fifty-six (fixed) continuous work area air samplers in the UF₆ building, three in the Sodium Removal facility, two in the drum dumping area, and ten in the Sampling Plant to determine airborne radioactivity levels. The sampling filters from all air sampling points are changed and counted daily for Alpha radioactivity. The air activity is calculated ($\mu\text{Ci/cc}$) and reported daily during periods of normal operation. However, during periods of abnormal operating conditions (visible spills or leaks), the sample filters are changed after the upset is corrected and the area decontaminated of visible contamination. Respirators are required for potentially exposed employees during this period. The air samples are usually or normally changed (after decontamination) at two-hour intervals until analytical results indicate the air activity is less than 30% of the Derived Air Concentration (DAC). Respirator requirements are then removed.

The administrative action level of 30% of DAC, when combined with estimated occupancy factors, is selected to limit employee exposure to airborne uranium to as low as reasonably achievable levels. If the average activity on any floor in the Feed Materials building is greater than 30% of DAC, or any four (4) of eight individual air samples exceed 30% of DAC, the entire floor is posted for precautionary use of respirators and an informal investigation is conducted by the Production Foreperson and Health Physics Department to correct the problem. If any single air sample is greater than DAC, a formal investigation is initiated by the Health Physics Department, and the Production Foreperson documents the cause and corrective action taken on an "Incident & Spill Report".

Each fixed breathing zone sampler is located approximately five feet above the floor and consists of: a 25 mm open-face filter holder, particulate or membrane filter, flow meter, and associated fittings for

Date: September 1, 1996

9.7.9 Fire Protection Action Plan

By letter dated July 15, 1994, NRC licensing personnel requested additional information regarding the plant fire protection. The items of concern have been addressed in this update of the license application (dated October 1, 1994). Although all items are not complete, the following "Action Plan" will be utilized:

ACTION PLAN

Item: of Concern	Action Required	Target Date
1. Off-site assistance Massac Co. Fire Dept.	Letter of Understanding	Completed August 10, 1994 Letter in Fire Plan
2. Fire Training for Fire Brigade Leaders	Industrial Fire Training	*Completed October 1995
3. Personal Protective Equipment	Purchase trousers for Fire Brigade	December 1994
4. Fire Hazard Analysis	Evaluate the fire safety of the facility	April 1995

*Fire training facilities were closed during summer months due to safety precautions (LSU Baton Rouge, LA)

The plant maintains a "Fire Prevention Plan" which addresses fire prevention, and fire fighting information, e.g., fire reporting, fire fighting equipment, emergency response personnel, etc.

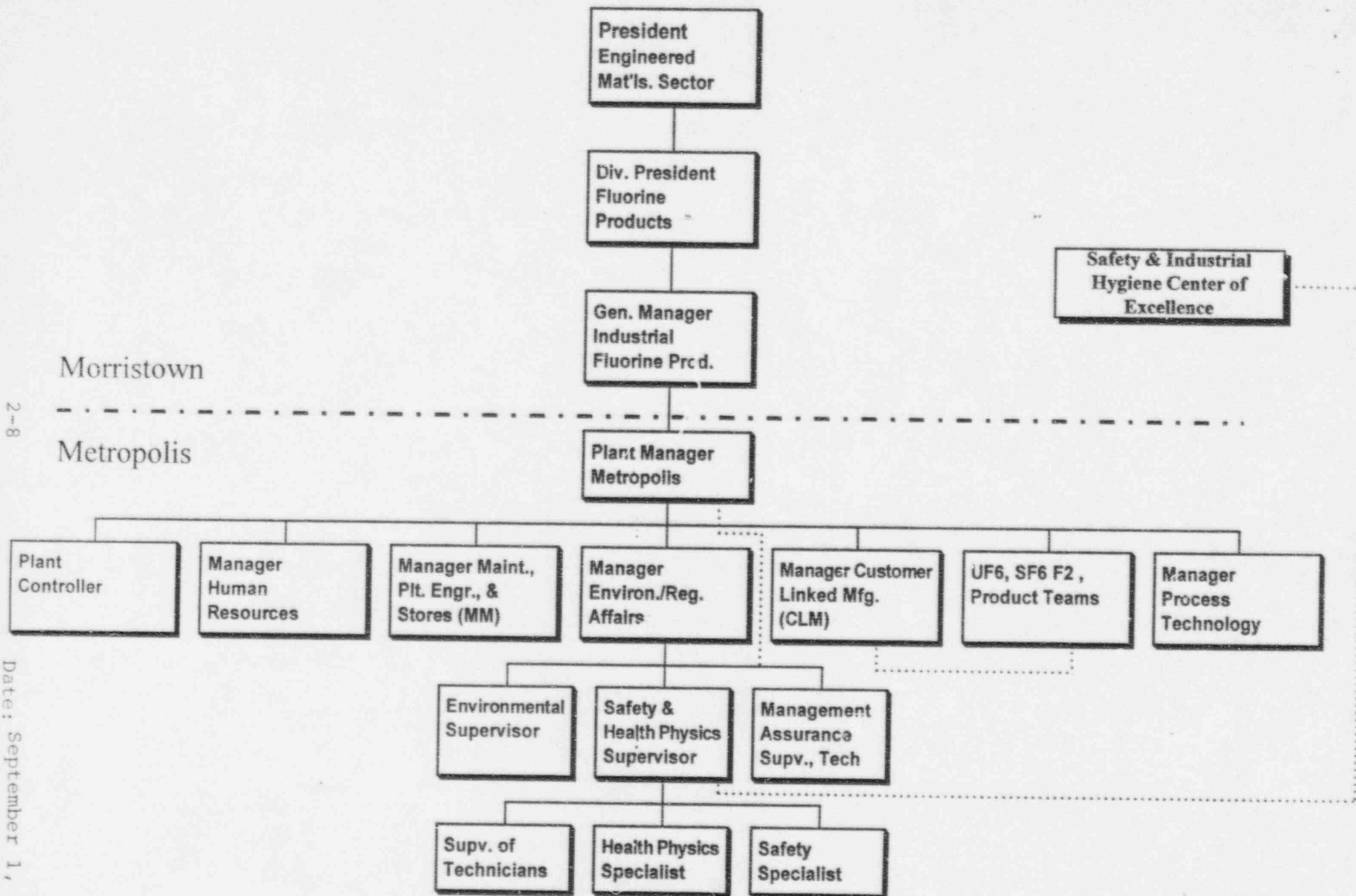
In addition, the Fire Prevention Plan includes a mutual aid agreement, and an open invitation to the County Fire Department for plant orientation and familiarization tours of the facility.

Date: September 1, 1996

THIS PAGE IS INTENTIONALLY BLANK.

Date: September 1, 1996

Fig. 2.1
ORGANIZATIONAL CHART



Process changes which could be detrimental to employee health and safety, environmental quality, or the equipment being modified are approved in accordance with the plant "Process Modification Procedure". Plant written procedures are reviewed, revised, approved, and implemented in accordance with Plant Policy entitled "Procedure Control Policy".

In addition, the Health Physicist reviews and approves capital appropriation requests before monies are spent for significant process changes. The Health Physics Department also inspects and approves, in writing, radiation work permits where employees must enter vessels which have been used in processing radioactive materials. Procedural or equipment changes which could increase employee radiation exposure are reviewed by Health Physics prior to implementation.

10.4 Functions of Key Personnel

In addition to the key managerial positions described in Section 10.1, the following personnel are also considered key personnel in assuring compliance with regulatory requirements:

10.4.1 Safety/Health Physics Supervisor -

The Safety/Health Physics Supervisor's primary responsibility in Safety is responsibility for assuring compliance with OSHA regulations for industrial safety, fire protection, and coordination of the plant Safety Program. The position reports directly to the Plant Manager.

His responsibility in Health Physics is for compliance with Nuclear Regulatory Commission licensing and inspection requirements. Responsibilities also include Occupational Health in non-uranium manufacturing areas, management liaison, and supervision of Health Physics personnel. The position reports directly to the Manager of Environmental/Regulatory Affairs. An indirect reporting relationship is also provided to the Safety & Industrial Hygiene Center team in Morristown, New Jersey.

10.4.2 Environmental Supervisor -

This individual is responsible for assuring compliance with all Federal and State environmental regulations, other than radiological, which impact upon plant operations. The position reports directly to the Manager of Environmental/Regulatory Affairs.

10.4.3 Supervisor , Management Assurance -

This Supervisor's primary responsibility is the implementation of the plant Management Assurance Program. The position reports directly to the Manager of Environmental/Regulatory Affairs; however, if a conflict of interest should develop, this Supervisor may communicate directly with the Plant Manager.

All Managers and Supervisors in critical plant areas are required to post a written notice of absence, and to designate a responsible individual for the position during vacations, illnesses, or other plant absences.

10.5 Education and Experience of Key Personnel

The minimum qualifications for the staff positions which relate directly to administration and supervision of the NRC regulatory compliance program are as follows:

10.5.1 Manager Environmental/Regulatory Affairs -

Requires a Bachelor's degree in Engineering, Science or related discipline and 10 or more years of diversified experience in chemical manufacturing, including supervisory or management experience in the Nuclear Fuel Cycle industry. Requires extensive knowledge of Nuclear Fuel Cycle technology and regulations. Must possess sound judgment and ability to work effectively with management and government officials.

10.5.2 Safety/Health Physics Supervisor -

Position requirements must include a Bachelor's degree in Physical or Biological Science and a minimum of three years Health Physics or related experience sufficient to maintain an effective radiation safety program.

10.5.3 Supervisor of Health Physics Technicians:

The minimum requirements for this position include a Bachelor's degree in Physical or Biological Science and at least three years of Health Physics or related experience.

10.5.4 Health Physics Specialist:

The minimum requirements for this position include a Bachelor's Degree in Physical or Biological Science and at least one year of Health Physics or related experience.

10.5.5 Manager Process Technology and Customer Linked Commercialization (CLC) -

Position requirements include a Bachelor's degree in Chemistry, Chemical Engineering, five years of Technical experience and three years of supervisory or management experience.

10.5.6 Management Assurance Supervisor

Position requirements include a Bachelor's degree in chemistry, Chemical Engineering or Mechanical Engineering with at least five years of plant experience.

10.6 Training

The plant maintains the following training for new employees and retraining for experienced employees:

New employees receive a first-day indoctrination in plant industrial and chemical safety which includes the issuance of personal safety equipment, demonstrations of proper use of safety equipment and lectures covering the importance of and proper procedures for radiation protection. Additionally, each employee is issued and requested to study copies of the "Employee Safety Handbook". A safety indoctrination form which outlines the initial training, the assignment of lockers, the issuance of TLD badges and safety equipment, and the fitting of respirators is signed and dated by the Safety/Health Physics Supervisor, the Health Physicist and the new employee.

During the employee's first week, a portion of each day is spent with his immediate supervisor reviewing safety and radiation protection procedures. Adequacy of this training is verified by his performance, and informal examination by his foreperson.

All experienced employees are reinstructed in safety hazards and proper radiation protection procedures at monthly "B" Council Safety meetings. Typical radiation safety topics used in monthly employee training include: radiological emergency planning, ALARA, air activity measurements, surface contamination, decontamination procedures, waste disposal, external dose control, dose units and limits, uranium deposition and toxicity, biological effects of radiation, respiratory protection, and employee rights and responsibilities. An annual quiz is normally given to determine subjects which need additional training emphasis.

The plant "Emergency Response Team" receives twenty-four hours per year training in fire control, emergency rescue, chemical hazards and other pertinent information from the plant "Emergency Response Plan".

Plant operators are trained, and refresher training provided in accordance with plant policy entitled: "Process Retraining Requirements". These training records are retained by the Plant Training Department.