An AREVA and Siemens Company



October 15, 2004 REL:04:019

U.S. Nuclear Regulatory Commission Attn: Document Control Desk (03-H8) One White Flint North 11555 Rockville Pike Rockville, Maryland 20852-2738

Gentlemen:

Subject:

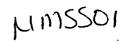
Submittal of Integrated Safety Analysis (ISA) Summary for Framatome ANP, Inc.'s (FANP's) Richland, Washington Fuel Fabrication Facility; License No.

SNM-1227; Docket No. 70-1257.

Enclosed with this letter, in CD format, is the ISA Summary for FANP's Richland, Washington nuclear fuel fabrication facility. The summary is being submitted in accordance with 10 CFR 70.62 (c)(3)(ii) and documents the Richland site's ISA conducted to meet the criteria in 10 CFR 70.62 (c)(1).

The Richland ISA Summary is organized into two major parts (Parts 1 and 2) to address the required elements of an ISA summary as set forth in 10 CFR 70.65(b). The eight chapters within Part 1 (Chapters 1 through 8) address general information and bounding accident scenarios applicable to the ISA effort and Richland facility as a whole; the eleven chapters (Chapters 9 through 19) of Part 2 contain the results of the ISA for specific facilities and the processes therein. Additional information matching the contents of the ISA Summary to the required elements in 10 CFR 70.65(b) is provided in Chapter 1, Section 1.3, ISA Summary Structure.

Concurrent with the conduct of the ISA and the designation of items relied on for safety (IROFS), additional safety controls have been identified to assure that the risks imposed by site operations meet the performance requirements in 10 CFR 70.61. Downstream changes to management systems have been made to assure that these additional controls are fully implemented and adequately maintained. The safety controls defined in the ISA Summary constitute the safety basis for the analyzed systems. Systems or operations that do not meet this safety basis will be held out-of-service until such time as they can be operated within these defined safety boundaries. This is a normal feature of operational control to assure safe operations of the plant in accordance with 10 CFR Part 70 and FANP's site license.



Technical contact information relative to the Richland Site ISA is as follows:

Framatome ANP, Inc. Attn: Calvin D. Manning, Manager Nuclear Criticality Safety 2101 Horn Rapids Road Richland, WA 99354 Phone: 509-375-8237

Email: calvin.manning@framatome-anp.com

Additionally, I can be reached at 509-375-8409 or via email at robert.link@framatome-anp.com.

Very truly yours,

R. E. Link, Manager

Environmental, Health, Safety & Licensing

/mah

Attachment A: List of Electronic Files

Enclosure: One Computer Disc with the electronic files

ATTACHMENT A

FOLDER: Chapters

Part 1 - Chapters 1 through 8 (One File)

File Name: E10-04 Chapters 1-8 - Version 1.0 - Richland Facility ISA Program.pdf

Chapter 1 - Introduction

Chapter 2 - Hom Rapids Road Site Information

Chapter 3 - Overview of FANP Facilities, Operations and Hazards Chapter 4 - ISA Team Credentials and Standard Methodologies

Chapter 5 - Quantitative Standards for Acute Chemical Exposures

Chapter 6 - Definition of Terms

Chapter 7 - General External and Facility Hazards

Chapter 8 - Hom Rapids Plant Administrative and Management Measures

Part 2 - Chapter 9 through 19 (Various Files)

Chapter 9 - UO₂ Building

File Name: E10-04 2.9 - Version 1.0 - UO₂ Building.pdf

Chapter 10 - Dry Conversion Facility

File Name: E10-04 2.10 - Version 1.0 - Dry Conversion Facility.pdf

Chapter 11 - SF Building

File Name: E10-04 2.11 - Version 1.0 - SF Building.pdf

Chapter 12 - ELO Building

File Name: E10-04 2.12 - Version 1.0 - ELO Building.pdf

Chapter 13 - UF₆ Cylinder Recertification Facility

File Name: E10-04 2.13 - Version 1.0 - UF₆ Cylinder Recertification Facility.pdf

Chapter 14 - Ammonia Recovery Facility and Industrial Waste Water Treatment System

File Name: E10-04 2.14 - Version 1.0 - ARF and Industrial Waste Water Tr.pdf

Chapter 15 - Lagoon Uranium Recovery/Solids Processing Facility

File Name: E10-04 2.15 - Version 1.0 - Lagoon Uranium Recovery Solids Pr.pdf

Chapter 16 - Detached Storage and Waste Handling Systems

File Name: E10-04 2.16 - Version 1.0 - Detached Storage and Waste Handl.pdf

Chapter 17 - Fuel Services Building

File Name: E10-04 2.17 - Version 1.0 - Fuel Services Building.pdf

Chapter 18 - Ventilation Systems (Plantwide)

File Name: E10-04 2.18 - Version 1.0 - Ventilation Systems (Plantwide).pdf

Chapter 19 - Product Development Test Facility

File Name: E10-04 2.19 - Version 1.0 - Product Development Test Facility.pdf

FOLDER: PDF

List of PDF Figures

```
Figure 2-1 Vicinity and Topographic Map.pdf
Figure 3-1 Restricted Area Map.pdf
Figure 3-2 Site Map.pdf
Figure 3-3 Criticality Alarm System Monitor Coverage.pdf
Figure 9-1 UO<sub>2</sub> First and Second Floor - Floor Plan.pdf
Figure 9-2 UF<sub>6</sub> Cylinder Wash Flow Diagram/Sequence of Operations.pdf
Figure 9-3 ADU Precipitation and Drying.pdf
Figure 9-4 Blue M Oven Oxidation Flow Sheet - UO<sub>2</sub> Shop.pdf
Figure 9-5 Container Loading Station.pdf
Figure 9-7 Powder Drum Warehouse.pdf
Figure 9-8 Lube Blend Press Feed.pdf
Figure 9-9 UO<sub>2</sub> Pellet Pressing.pdf
Figure 9-10 UO<sub>2</sub> Pellet Sintering.pdf
Figure 9-11 UO<sub>2</sub> Pellet Grinding and Inspection.pdf
Figure 9-12 UO<sub>2</sub> Pellet Storage.pdf
Figure 9-13 Rod Loading Process.pdf
Figure 9-14 Rod Testing Area.pdf
Figure 9-15 Bundle and Cage Assembly System - Room 183.pdf
Figure 9-16 Bundle and Cage Assembly System - Room 182.pdf
Figure 9-17 Rod Downloading Area.pdf
Figure 9-18 Flow/Capacity Diagram.pdf
Figure 9-19 Waste Collection and Treatment System P&ID Equipment Arrangement.pdf
Figure 9-20 BLEU Process.pdf
Figure 9-21 BLEU Scrap Recovery Process.pdf
Figure 10-1 Dry Conversion Building, First Floor Plan.pdf
Figure 10-2 Dry Conversion Building, Second Floor Plan.pdf
Figure 10-3 Dry Conversion Building, Third Floor Plan.pdf
Figure 10-4 Dry Conversion Building, Fourth Floor Plan.pdf
Figure 10-5 Dry Conversion Process Flow Diagram.pdf
Figure 10-6 Liquid Effluent and HF Recovery Process Flow Diagram.pdf
Figure 11-1 SF Building General Arrangement.pdf
Figure 11-2 SF Building Powder Preparation Equipment.pdf
Figure 11-3 SF Building Pellet Press and Stacker.pdf
Figure 11-4 SF Building Pellet Grinder Line.pdf
Figure 11-5 SF Building Scrap Recycle.pdf
Figure 11-6 SF Building Sintering Furnace.pdf
Figure 11-7 SF Building SWUR Waste Sorting and Incinerating Equipment (First Floor).pdf
Figure 11-8 SF Building SWUR Waste Sorting and Incinerating Equipment (Second Floor) .pdf
Figure 11-9 Fabrication of UO<sub>2</sub>-Gd<sub>2</sub>O<sub>3</sub> Pellets (Process Flow Chart) .pdf
```

Figure 12-1 ELO Building Basement Floor Plan.pdf

Figure 11-10 NAF Pellet Outgas Equipment Layout.pdf Figure 11-13 Rod Loading Process Flow Diagram.pdf

Figure 11-14 Solid Waste Uranium Recovery Process Flow Diagram.pdf

```
Figure 12-2 Gad Scrap Recovery and Continuous MOP Powder Dissolution Rooms.pdf
Figure 12-3 Pellet Dissolver Room.pdf
Figure 12-4 Decontamination Room.pdf
Figure 12-5 Gadolinia Scrap Uranium Recovery Process Flow Diagram.pdf
Figure 12-6 GSUR Raffinate Treatment Flow Diagram.pdf
Figure 12-7 ELO Drain.pdf
Figure 13-1 UF<sub>6</sub> Recertification Facility.pdf
Figure 13-2 Flow Diagram for the Cylinder Recertification Process.pdf
Figure 14-1 Ammonia Recovery Facility Floor Plan.pdf
Figure 14-2 Process Flow Diagram - Ammonia Recovery Facility.pdf
Figure 14-3 Flow Diagram - ADU Effluent Tank System.pdf
Figure 14-4 Flow Diagram - IX Feed Tanks.pdf
Figure 14-5 Flow Diagram - IX System.pdf
Figure 14-6 Flow Diagram - Sand Filter/IX Backwash.pdf
Figure 15-1 LUR/SPF Floor Plan.pdf
Figure 15-2 Soil Wash Flow Diagram.pdf
Figure 16-1 UF<sub>6</sub> Cylinder Receiving and Storage Facility.pdf
Figure 16-2 30B UF<sub>6</sub> Cylinder.pdf
Figure 16-3 Site Plan Between Building Transfers.pdf
Figure 16-4 General Arrangement of Storage Racks in Warehouse 6.pdf
Figure 16-5 General Arrangement of Storage in Warehouse 2.pdf
Figure 16-8 Operation Scrap Warehouse 7.pdf
Figure 18-1 UO<sub>2</sub> Building HVAC System Flow Diagrams.pdf
Figure 18-2 UO₂ Building HVAC System Flow Diagrams.pdf
Figure 18-3 UO<sub>2</sub> Building HVAC System Flow Diagrams.pdf
Figure 18-4 UO<sub>2</sub> Building HVAC System Flow Diagrams.pdf
Figure 18-5 UO<sub>2</sub> Building HVAC System Flow Diagrams.pdf
Figure 18-6 Simplified Schematic HVAC System - BLEU Addition.pdf
Figure 18-7 SF Building HVAC System Flow Diagrams.pdf
Figure 18-8 SF Building HVAC System Flow Diagrams.pdf
Figure 18-9 SF Building HVAC System Flow Diagrams.pdf
Figure 18-10 SF Building HVAC System Flow Diagrams.pdf
Figure 18-11 Simplified Schematic HVAC System – Dry Conversion Building.pdf
Figure 18-12 ELO HVAC System Flow Diagrams.pdf
Figure 18-13 ELO HVAC System Flow Diagrams.pdf
Figure 18-14 Laundry HVAC System Flow Diagram.pdf
Figure 18-15 LUR/SPF HVAC System Flow Diagram.pdf
Figure 18-16 Cylinder Recertification Building HVAC System Flow Diagram.pdf
Figure 18-17 FS Building HVAC System Flow Diagram.pdf
Figure 18-18 Simplified Schematic HVAC System – ARF.pdf
```

FOLDER: JPG

List of JPG Figures

```
Figure 2-1 Vicinity and Topographic Map.jpg
Figure 3-1 Restricted Area Map.jpg
Figure 3-2 Site Map.jpg
Figure 3-3 Criticality Alarm System Monitor Coverage.jpg
Figure 9-1 UO<sub>2</sub> First and Second Floor - Floor Plan.ipg
Figure 9-2 UF<sub>6</sub> Cylinder Wash Flow Diagram/Sequence of Operations.jpg
Figure 9-3 ADU Precipitation and Drying.jpg
Figure 9-4 Blue M Oven Oxidation Flow Sheet - UO<sub>2</sub> Shop.jpg
Figure 9-5 Container Loading Station.jpg
Figure 9-7 Powder Drum Warehouse.jpg
Figure 9-8 Lube Blend Press Feed.jpg
Figure 9-9 UO<sub>2</sub> Pellet Pressing.jpg
Figure 9-10 UO<sub>2</sub> Pellet Sintering.jpg
Figure 9-11 UO<sub>2</sub> Pellet Grinding and Inspection.jpg
Figure 9-12 UO<sub>2</sub> Pellet Storage.jpg
Figure 9-13 Rod Loading Process.jpg
Figure 9-14 Rod Testing Area.jpg
Figure 9-15 Bundle and Cage Assembly System - Room 183.jpg
Figure 9-16 Bundle and Cage Assembly System - Room 182.jpg
Figure 9-17 Rod Downloading Area.jpg
Figure 9-18 Flow/Capacity Diagram.jpg
Figure 9-19 Waste Collection and Treatment System P&ID Equipment Arrangement.jpg
Figure 9-20 BLEU Process.ipg
Figure 9-21 BLEU Scrap Recovery Process.jpg
Figure 10-1 Dry Conversion Building, First Floor Plan.jpg
Figure 10-2 Dry Conversion Building, Second Floor Plan.jpg
Figure 10-3 Dry Conversion Building, Third Floor Plan.jpg
Figure 10-4 Dry Conversion Building, Fourth Floor Plan.jpg
Figure 10-5 Dry Conversion Process Flow Diagram.jpg
Figure 10-6 Liquid Effluent and HF Recovery Process Flow Diagram.jpg
Figure 11-1 SF Building General Arrangement.jpg
Figure 11-2 SF Building Powder Preparation Equipment.jpg
Figure 11-3 SF Building Pellet Press and Stacker.jpg
Figure 11-4 SF Building Pellet Grinder Line.jpg
Figure 11-5 SF Building Scrap Recycle.jpg
Figure 11-6 SF Building Sintering Furnace.jpg
Figure 11-7 SF Building SWUR Waste Sorting and Incinerating Equipment (First Floor).jpg
Figure 11-8 SF Building SWUR Waste Sorting and Incinerating Equipment (Second Floor).jpg
Figure 11-9 Fabrication of UO<sub>2</sub>-Gd<sub>2</sub>O<sub>3</sub> Pellets (Process Flow Chart).jpg
Figure 11-10 NAF Pellet Outgas Equipment Layout.jpg
Figure 11-13 Rod Loading Process Flow Diagram.jpg
Figure 11-14 Solid Waste Uranium Recovery Process Flow Diagram.jpg
```

Figure 12-1 ELO Building Basement Floor Plan.jpg

```
Figure 12-2 Gad Scrap Recovery and Continuous MOP Powder Dissolution Rooms.jpg
Figure 12-3 Pellet Dissolver Room.jpg
Figure 12-4 Decontamination Room.jpg
Figure 12-5 Gadolinia Scrap Uranium Recovery Process Flow Diagram.jpg
Figure 12-6 GSUR Raffinate Treatment Flow Diagram.jpg
Figure 12-7 ELO Drain.jpg
Figure 13-1 UF<sub>6</sub> Recertification Facility.jpg
Figure 13-2 Flow Diagram for the Cylinder Recertification Process.jpg
Figure 14-1 Ammonia Recovery Facility Floor Plan.jpg
Figure 14-2 Process Flow Diagram - Ammonia Recovery Facility.jpg
Figure 14-3 Flow Diagram - ADU Effluent Tank System.jpg
Figure 14-4 Flow Diagram - IX Feed Tanks.jpg
Figure 14-5 Flow Diagram - IX System.jpg
Figure 14-6 Flow Diagram - Sand Filter/IX Backwash.jpg
Figure 15-1 LUR/SPF Floor Plan.jpg
Figure 15-2 Soil Wash Flow Diagram.jpg
Figure 16-1 UF<sub>6</sub> Cylinder Receiving and Storage Facility.jpg
Figure 16-2 30B UF<sub>6</sub> Cylinder.jpg
Figure 16-3 Site Plan Between Building Transfers.jpg
Figure 16-4 General Arrangement of Storage Racks in Warehouse 6.jpg
Figure 16-5 General Arrangement of Storage in Warehouse 2.jpg
Figure 16-8 Operation Scrap Warehouse 7.jpg
Figure 18-1 UO<sub>2</sub> Building HVAC System Flow Diagrams.jpg
Figure 18-2 UO<sub>2</sub> Building HVAC System Flow Diagrams.jpg
Figure 18-3 UO<sub>2</sub> Building HVAC System Flow Diagrams.jpg
Figure 18-4 UO<sub>2</sub> Building HVAC System Flow Diagrams.jpg
Figure 18-5 UO<sub>2</sub> Building HVAC System Flow Diagrams.jpg
Figure 18-6 Simplified Schematic HVAC System - BLEU Addition.jpg
Figure 18-7 SF Building HVAC System Flow Diagrams.jpg
Figure 18-8 SF Building HVAC System Flow Diagrams.jpg
Figure 18-9 SF Building HVAC System Flow Diagrams.jpg
Figure 18-10 SF Building HVAC System Flow Diagrams.jpg
Figure 18-11 Simplified Schematic HVAC System – Dry Conversion Building.jpg
Figure 18-12 ELO HVAC System Flow Diagrams.jpg
Figure 18-13 ELO HVAC System Flow Diagrams.jpg
Figure 18-14 Laundry HVAC System Flow Diagram.jpg
Figure 18-15 LUR/SPF HVAC System Flow Diagram.jpg
Figure 18-16 Cylinder Recertification Building HVAC System Flow Diagram.jpg
Figure 18-17 FS Building HVAC System Flow Diagram.jpg
Figure 18-18 Simplified Schematic HVAC System - ARF.jpg
```