

GE Hitachi Nuclear Energy Global Laser Enrichment, LLC

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#### Letter number GLEL-09-004

Andrea Kock, Chief Environmental Review Branch Division of Waste Management and Environmental Protection Office of Federal and State Materials and Environmental Management Programs U.S. Nuclear Regulatory Commission Washington, D.C. 20555-0001

#### SUBJECT: GE-HITACHI GLOBAL LASER ENRICHMENT SUBMITTAL OF ADDITIONAL INFORMATION RELATED TO NRC REVIEW OF GLE ENVIRONMENTAL REPORT

Dear Ms. Kock,

As discussed during meetings held at the Wilmington site on May 18-20, GE-Hitachi Global Laser Enrichment (GLE) is submitting the attached information to assist in the NRC review of the GLE Environmental Report.

If you have any questions, or require additional information, please contact Julie Olivier of my staff at 910-819-4799, or at <u>Julie.Olivier@ge.com</u>; or myself at 910-819-1925 or at <u>Alberte.Kennedy@ge.com</u>.

Sincerely,

Albert Kennedy / Environmental Health and Safety Manager, GLE

Enclosures:

- 1. Attachment 1 Followup information from meetings May 18-20, 2009
- 2. Disk 1 Followup documents from meetings May 18-20, 2009
- 3. Disk 2 Followup documents from meetings May 18-20, 2009



June 8, 2009

Global Laser Enrichment Docket Number 70-7016

**ATTN: Document Control Desk** 

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cc: without enclosures:

T. G. Orr, GEH GLE, Wilmington, NC S. Murray, GEH, Wilmington, NC J. Head, GEH, Wilmington, NC L. Butler, GEH, Wilmington, NC K. R. Givens, GEH GLE, Wilmington, NC T. Johnson, FCSS, NMSS, NRC B. Smith, FCSS, NMSS, NRC

C. Ridge, EPPAD, FSME, NRC

#### Attachment 1 Follow-up to NRC Questions from May 18-20 site visit

The numbering scheme for the following questions and responses are consistent with the numbering scheme presented in the list of questions discussed during the visit.

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### GE-3 – Provide shapefiles for selected figures. Provide Light Detection and Ranging (LIDAR) data GLE used to determine the extent of the visual impacts.

The shapefiles for the selected figures in the ER are provided on the CD labeled "GLE Commercial Facility ER Followup – Disk 1". The files are located in the folder labeled "Requested\_GIS\_Shapefiles per GE-3".

In addition, LIDAR data is on the same disk, in the folder labeled "LIDAR data".

# AQ-1 Provide the Universal Transverse Mercator (UTM) coordinates or latitude and longitude of air emission and noise sources (existing and proposed) and neighboring sensitive receptors. An electronic file of a map is preferred to read off the coordinates.

The UTM coordinates, and a map, are provided on the CD labeled "GLE Commercial Facility ER Followup – Disk 1". The files are located in the folder labeled "Coordinates per AQ-1 non-SRI".

### AQ-2 Provide a description of On-Site Transfer Vehicles (OSTVs), including fuel options

Cylinders will be moved to and from the cylinder shipping and receiving area to the cylinder storage pads by on-site transfer vehicles (OSTVs). The exact design of these vehicles is currently undecided, but it will likely be a forklift or straddle carrier powered by electric motors, diesel- or propane-fueled engines. A full tank of vehicle fuel is limited to less than 74 gal. (48Y or 48G) and 23 gal. (30B) for diesel, and to the equivalent heating value for propane. A conservative estimate for total OSTV operation is one vehicle continuously operating for 3 hours per day.

Once at the cylinder pads, either electric overhead cranes or OSTVs will be used to move the cylinders to the appropriate storage locations.

#### CI-5 – Verify that Progress Energy can and is willing to provide electricity for GLE

Representatives from GLE have been in contact with representatives from Progress Energy. The Progress Energy representatives have communicated that they are able to accommodate the increase in electricity use on the Wilmington site (from ~25 MW to ~200 MW). Progress Energy is in process of evaluating and providing the plan for any necessary upgrades to the existing power supply lines.

#### AQ-2 Provide TSS, TDS data for cooling tower, clarify the stack height

For the purpose of modeling particulate emissions from the GLE cooling tower, it is reasonable to assume that it will be similar to the FMO cooling tower. The FMO

cooling tower is approximately 1250 Tons (15,000,000 BTU/hr or ~4.4 MW). The maximum flow for the load is approximately 3000 gpm. The total dissolved solids (TDS) in the feed water to the FMO cooling tower are controlled to be 858 ppm to 660 ppm (1300 – 1000 specific conductivity). The total suspended solids in the feed water to FMO cooling tower are reported as <10 mg/L.

The GLE stack height is reported in the GLE ER to be approximately 50 ft. Since the finalization of the ER, the GLE stack design has been modified to be 70-90 feet.

### AQ-4 - Provide spreadsheet with assumptions for AERMOD modeling (includes look-up values used in model)

The spreadsheet is provided on the CD labeled "GLE Commercial Facility ER Followup – Disk 1". The file is located in the folder labeled "AERMOD emission factors".

### HH/R-5 – Provide clarification on the soil samples collected at locations 20 and 21 up to 1997.

The soil samples at locations 20 and 21 were collected and analyzed for uranium concentrations until the levels of uranium stabilized. The soil samples in this area were in the waste box storage pad areas, where there was known to be inadvertent uranium released to the soil. The corrective actions implemented in the storage pad areas since 1995 have maintained the level of uranium concentrations. The volume of stored material has been reduced in the 1995 to 2005 time period and residual contamination in the area is from historic activity and has remained constant. The soil contamination in this area is not expected to mobilize. When the FMO facility undergoes facility decommissioning, the soil in this area will be remediated.

The GLE commercial facility construction will not impact the storage pad area because it is further away to the north of the storage pads. Based on historical site activities, and the groundwater monitoring results in the vicinity of the Study Area, there is no reason to believe that the soil in the GLE study area is contaminated. Prior to beginning construction, GLE will perform a soil survey to establish a baseline to use as a comparison when the GLE facility undergoes decommissioning.

### HH/R-6 – Provide 2009 letter from GEH to North Carolina Inactive Hazardous Sites Branch (IHSB)

The letter is on the CD labeled "GLE Commercial Facility ER Followup – Disk 2". The file is labeled "GE Wilmington Response letter final April 2009.pdf".

### HH/R-9 – Provide fenceline TLD data, recent recordable injury data, input files for COMPLY modeling.

Direct radiation is monitored through radiological surveys at the owner controlled area fence boundary along portions of the property line nearest to the FMO, and all radiological readings are equal to or less than background (5 microR/hr or less). Thermoluminescent dosimeters (TLDs) are placed around the perimeter of certain process operations (i.e., treated effluent process lagoons), however this data is collected for worker dose calculations, and not for environmental monitoring.

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The recordable accidents from January 2006 through December 31, 2008 are summarized as follows:

Time Period	Number of Recordable Injuries
Jan. 1 – Dec. 31, 2006	12
Jan. 1 – Dec. 31, 2007	11
Jan. 1 – Dec. 31, 2008	22

The COMPLY files are on the CD labeled "GLE Commercial Facility ER Followup – Disk 2". The files are labeled "FMO COMPLY input 06 07 08.pdf" and "FMO COMPLY results 06 07 08.pdf".

#### HH/R-16 – Provide estimated D&D doses

The projected annual dose received by the average facility worker/contractor during the decommissioning process (decontamination and dismantling) is estimated to be between <5 mRem and150 mRem per year based on a facility dose rate averaging of .01 mRem/hr in non-affected areas and up to .5 mRem/hr in the major process areas. This is consistent with doses received by GEH workers/contractors during decommissioning activities. This estimate is dependent on the work location and the actual man-hours spent in the area. The majority of the personnel exposure will be reduced due to proper ALARA techniques such as decontamination of process equipment, engineering controls, and the flushing of systems/components of radioactive materials prior to decommissioning. The decommissioning exposure to the worker should be below the dose to the worker during the facility operational period.

#### HY-7 – Provide 5 selected groundwater reports from RTI

The files are on the CD labeled "GLE Commercial Facility ER Followup – Disk 1". They are located in the folder labeled "Requested Hydrology References".

#### TR-1 – Justify cylinder dose rates used in GLE ER Table 4.2-4

For the 30B products cylinders, the following assumptions were used:

- Individual 30B cylinder external dose at 1 meter = 0.19 mrem/hr
- No. of 30B cylinders per truck shipment = 5
- Total dose per truck shipment = 0.19 x 5 = 0.95 mrem/hr

For the 48Y heels cylinders, the following assumptions were used:

- Individual 48Y cylinder external dose at 1 meter = 1.0 mrem/hr
- No. of 48Y cylinders per truck shipment = 2
- Total dose per truck shipment = 1.0 x 2 = 2.0 mrem/hr

For the LLRW estimate, an individual LLRW Type A box external dose of 0.0042 mrem/hr was assumed. As pointed out by ANL during the meetings, there was an error in the calculation of the RADTRAN run for the shipment of LLRW to Clive UT. The individual box dosage rate is also used as the total dose per truck shipment, rather than the actual dose rate from the shipment of multiple boxes (multiple boxes per shipment

would result in a higher dose rate) understating the exposure numbers calculated by the RADTRAN model and presented in table 4.2-4 of the ER.

### TR-2 – Provide a radioactive inventory for radioactive shipments into and out of GLE and existing site facilities.

See the following tables.

Since the radionuclide inventory in cylinders from a laser enrichment facility have not been measured yet, the following table containing the radionuclide inventory in cylinders from a gaseous diffusion/gas centrifuge facility is provided.

### Radionuclide inventory for cylinders from gaseous diffusion/gas centrifuge facilities

Radionuclide	48Y Natural Uranium	48Y Natural Uranium Heels	48 Y Tails	48 Y Tails Heels	4.95% Enriched Uranium	8% Enriched Uranium	Class A Low-level Waste
U-234	2.788 Ci	0.0051 Ci	0.509 Ci	0.0009 Ci	4.516 Ci	8.279 Ci	42.5%
U-235	0.130 Ci	0.0002Ci	0.037 Ci	0.0001 Ci	0.166 Ci	0.266 Ci	14.5%
U-238	2.820 Ci	0.0051 Ci	2.835 Ci	0.0051 Ci	0.491 Ci	0.476 Ci	43.0%

Notes:

The waste is assumed to have the same radionuclide inventory as 5% enriched material, but the curie content will vary, therefore the inventory is shown as percentages.

The facility will be licensed to 8% enrichment in anticipation of future reactors using 8% enriched fuel. Typical enrichment values for current reactors are 5%, therefore both sets of values are shown.

Type of	Radionuclide Inventory
Material	-
FMO Feed –	U-234: 4.516 Ci
full UF6	U-235: 0.166 Ci
cylinder (max	U-238: 0.491 Ci
4.95%	Total: 5.174 Ci
enrichment)	
FMO Feed -	U-234: 0.0224 Ci
empty 30B UF6	U-235: 0.0008 Ci
cylinder (max	U-238: 0.0024 Ci
4.95%	Total: 0.0257 Ci
enrichment)	
FMO Product –	U-234: 4.516 Ci
BWR fuel	U-235: 0.166 Ci
assemblies	U-238: 0.491 Ci
	Total: 5.174 Ci
FMO Product -	U-234: 4.516 Ci

#### Radionuclide inventory for FMO and WFSC shipments

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UO2 powder	U-235: 0.166 Ci
	U-238: 0.491 Ci
	Total: 5.174 Ci
FMO Class A	U-234: 87.3 %
low level rad	U-235: 3.2 %
Waste	U-238: 9.5 %
WFSC	Fe-55: 78%
contaminated	Co-60: 17%
reactor	Mn-54: 3.5%
components	Fe-59: 0.5%
	Zn-65: 1%
WFSC Class A	Fe-55: 78%
low level	Co-60: 17%
radioactive	Mn-54: 3.5%
waste (dry	Fe-59: 0.5%
active waste)	Zn-65: 1%

Notes:

For FMO waste, the curie content varies, but the percentage of uranium isotopes is typically similar to that for 4.95% enrichment, which was provided above.

For WFSC waste, the curie content varies, but typical isotopic percentages were provided.

TR-3 – Provide the number, types, typical dose rates from radioactive shipments into and out of existing site facilities.

See the following table:

Typical Annual Radioactive Shipments to/from FMO and WFSC

Type of shipment	Facility	Shipments per year	Destination (to/from)	Number of containers per truck	Typical dose rate (mrem/ hr) at 2 meters	Description
Bundles	FMO	124	From Wilmington to domestic boiling water reactors	2 bundles per container, 14 containers per Sea-Van. 1 Sea-Van per truck	0.2	Boiling water reactor fuel bundles
Powder	FMO	73	From Wilmington to Port Everett Washington.	18 kg UO2 powder per bottle, 27 bottles per container,6	0.2	Enriched UO2 powder (max 4.95%)

			Or Oakland Ca.	containers per Sea-van, 1 Sea-van per truck.		
UF6 full cylinders	FMO	100	From Canada/Port of Baltimore to Wilmington	6 per flat bed	0.19	Enriched UF6 in 30B cylinders (max 4.95%)
UF6 empty cylinders	FMO	10	From Wilmington to Areva, Wa.	25 per flat bed	3 to 4	Empty 30B cylinders (with a heel)
Class A low-level waste	FMO	3	From Wilmington to Clive, UT (Energy Solutions)	2 Seavans per truck	0.05	Class A low-level waste from decommissioning activities
Class A low-level waste	FMO	8	From Wilmington to Clive, UT (Energy Solutions)	20 boxes (each box is 4x4x4 ft)	0.05	Class A low-level radioactive waste from Fuel manufacturing operations
WFSC domestic	WFSC	626	To/from Wilmington to/from domestic boiling water reactors	Aluminum DOT 7A containers (typical shipment is 12 containers per truck)	4*	Contaminated reactor components
WFSC international	WFSC	40	To/from Wilmington to/from JFK airport NY	Aluminum DOT 7A containers (typical shipment is 10 containers per truck)	4*	Contaminated reactor components
WFSC Low- level Class A waste	WFSC	10	From Wilmington to Clive, UT (Energy Solutions)	15 containers per truck or 2 Seavans per truck	6*	Dry active waste from WFSC operations
WFSC Low- level Class A waste	WFSC	2	From Wilmington to Clive, UT (Energy Solutions)	1 Type B Container per truck	3*	Dry active waste from WFSC operations

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\*The values can vary, an average value was provided. The external dose rate does not exceed the GEH administrative limit of 8 mrem/hr at 2 meters.

The dimensions of the average WFSC DOT 7A aluminum container are 95" long x 42" wide x 40" high.

#### WM-1 – Provide construction waste estimates.

The following description and estimation of construction wastes is derived from the Louisiana Energy Services (LES) Environmental Report for the construction of the National Enrichment Facility (revision 2, July 2004). LES had experience building uranium enrichment facilities in Europe; therefore they were in a position to provide accurate numbers. Given that a laser enrichment facility has never been built, GLE has chosen to provide the LES numbers for amount of construction waste, and believes that they are bounding. The GLE footprint is smaller than the LES footprint (10 acres versus approximately 15 acres).

Wastes generated during GLE site preparation and construction will be varied, depending on the activities in progress. The bulk of the wastes will consist of non-hazardous materials such as packing materials, paper and scrap lumber. These types of wastes will be transported off site to an approved landfill. It is estimated there will be an average of 3,058 m3 (4,000 yd3) (non-compacted) per year of this type of waste.

Hazardous wastes that may be generated during construction have been identified and annual quantities estimated as shown below. Any such wastes that are generated will be handled by approved methods and shipped off site to approved disposal sites.

Paint, solvents, thinners, organics - 11,360 L (3,000 gal) Petroleum products, oils, lubricants - 11,360 L (3,000 gal) Sulfuric acid (battery) - 379 L (100 gal) Adhesives, resins, sealers, caulking - 910 kg (2,000 lbs) Lead (batteries) - 91 kg (200 lbs) Pesticides - 379 L (100 gal)

Management and disposal of all wastes from the Wilmington site is performed by a staff professionally trained to properly identify, store, ship wastes, audit vendors, direct and conduct spill cleanup, interface with state agencies, maintain inventories and provide annual reports.

WM-2 – Provide the typical waste packaging and the number of packages shipped per truck for GLE radioactive shipments. Provide the maximum capacity for the site process lagoon system and a description and a quantitative estimate for the evaporator solids collected in the GLE Radioactive Liquid Effluent Treatment System (RLETS).

The typical waste packaging and number of truck shipments for existing site operations are shown in the table above (answer to question TR-3). For GLE, it is anticipated that the radioactive waste packaging will be similar to that used by FMO. A

typical shipment of waste to the Energy Solutions facility in Clive, UT would consist of a truck bearing 20 waste boxes (each box is 4x4x4 ft). There would be approximately 36 shipments per year.

The lagoons are permitted through NPDES permit number NC0001228 to release a maximum of 1.8 million gallons per day (gpd) of treated process water. Current site operations currently release approximately 350,000 gpd, but that number can increase to 600,000 gpd during rain events. GLE will release approximately 35,000 gpd, thus the lagoons can handle the extra water flow and still remain well within the NPDES permit limit.

The amount of solids generated in the evaporator step in the Radioactive Liquid Effluent Treatment System is included in the estimate on Table 4.13-3 under the entry "Liquid Effluent Treatment Sludge" (953 kg/year). These solids are expected to be fluoride salt solids and will be shipped to Energy Solutions in Clive, UT for final disposal.

### Below are answers to additional questions that arose during the May 18-20 meetings

#### Provide the dose impacts from GLE (not including combined GNF impacts).

The dose impacts are provided on the CD labeled "GLE Commercial Facility ER Followup – Disk 1". The files are located in the folder labeled "GLE-Only Air MEI Dose Calcs". The folder contains the GENII input and output files, a memoranda to file with the assumptions used in the model, and a spreadsheet that contains a summary of the results.

#### Provide the updated Decommissioning Schedule and Cost

The ER states that the Decommissioning of the GLE facility will take approximately 9 years. Since the submittal of the ER, it has been determined that the decommissioning will take approximately 5 years. This new schedule does not impact the analyses in the ER. The Decommissioning Funding Plan to be submitted with the remainder of the license application describes the activities to be completed during decommissioning.

## While preparing the responses to the NRC questions, it was discovered that a facility located on the Wilmington site was not fully described in the ER. The Wilmington Field Services Center is described below.

Wilmington Field Services Center is located inside the Controlled Access Area, north of the FMO building. This operation cleans and refurbishes contaminated and noncontaminated equipment used at reactor sites. This area is regulated by a North Carolina Division of Radiation Protection license, which is included on the CD labeled "GLE Commercial Facility ER Followup – Disk 2". The file is labeled "State of NC License 317-1 Amendment 93.pdf".The facility operations and license commitments are provide in the license application, which is included CD labeled "GLE Commercial Facility ER Followup – Disk 2". The file is labeled "GLE Commercial Facility ER Followup – Disk 2". The file is labeled "12-07-07 065-0317-3\_License\_Amendment\_Submittal\_final.pdf" The facility has two main operations: Fuel Examination Technology (FET) and Reactors and Field Services (RFS). The first of two FET buildings is designed with appropriate isolation and controls for a contaminated zone, with the remainder of the building used for uncontaminated storage, office space, and personnel access to the contaminated zone. The other FET building is a warehouse to provide covered storage for the reusable containers when they are not in use. The containers in the warehouse provide storage for the equipment while not in the field or being serviced. RFS buildings are designed to accommodate contaminated tooling, control rod drives (CRD), noncontaminated tooling and general warehouse storage.

The following review areas have been evaluated for potential impact from the WFSC on the analyses that the NRC is performing for the GLE ER review:

Land Use – The WFSC does not affect the land use analysis sections (3.1 and 3.2) in the GLE ER. The WFSC is an industrial facility, located on the existing developed portions of the Wilmington site. The structures that are currently used for the WFSC were existing structures at the time the GLE ER was prepared and thus were considered as part of the "Operations Area" in the GLE ER chapter 3 "Description of the Affected Environment".

<u>Transportation</u> – The tables included in the above answer to questions TR-2 and TR-3 include the information on radioactive shipments into and out of the WFSC facility.

<u>Geology and Soils</u> – The WFSC does not affect the analyses provided in the Geology and Soils sections (3.3 and 4.3) of the GLE ER. The analyses provide information across the Wilmington site, including the area where the WFSC is located. The structures that are currently used for the WFSC were existing structures at the time the GLE ER was prepared and thus were considered as part of the "Operations Area" in the GLE ER chapter 3 "Description of the Affected Environment".

<u>Water Resources</u> – The potable and process water usage estimates provided in the GLE ER included the WFSC (see Table 3.4-17). Wastewater produced in the contaminated zones and change rooms is quarantined and processed by evaporators which eliminate the water and collect the radioactivity as a residue. This process eliminates radioactive water effluent.

<u>Ecological Resources</u> – The WFSC does not affect the analyses provided in the Ecological Resources sections (3.5 and 4.5) of the GLE ER. The ecological analysis was performed on the study area, not on existing facilities on the site. The structures that are currently used for the WFSC were existing structures at the time the GLE ER was prepared and thus were considered as part of the "Operations Area" in the GLE ER chapter 3 "Description of the Affected Environment".

<u>Meteorology, Climatology, and Air Quality</u>- Air effluents from the WFSC are under the regulatory authority of the NC Division of Radiation Protection. The WFSC has 3 stacks, and these are monitored for gross beta emissions, in accordance with the NC radioactive materials license (see files entitled x and y on the enclosed CD). The HEPA filtration systems effectively remove the radioactive effluents from these buildings. As an added precaution, the contaminated zone effluent stacks are continuously monitored by isokinetic stack air samplers, filters are collected at intervals not to exceed ten days and analyzed for gross beta activity. Three years of WFSC effluent data have been collected

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and are summarized in the following table. Due the low amount of radionuclides and the absence of other chemicals in the air emissions, the WFSC is exempt from an air permit from the NC Division of Air Quality.

Stack Identification	Gross Beta emissions 2006 microcuries per milliliter	Gross Beta emissions 2007 microcuries per milliliter	Gross Beta emissions 2008 microcuries per milliliter
WFSC – FET	3.0x10 <sup>-15</sup>	2.1x10 <sup>-15</sup>	1.8x10 <sup>-15</sup>
WFSC – TA	8.1x10 <sup>-15</sup>	2.5x10 <sup>-15</sup>	1.8x10 <sup>-15</sup>
WFSC - CRD	1.2x10 <sup>-14</sup>	3.8x10 <sup>-15</sup>	2.1x10 <sup>-15</sup>

The radioactive effluents from the WFSC are well below the regulatory value of 2x10<sup>-10</sup> microcuries per milliliter (10 CFR 20 Appendix B value for Co-60, as it is the main contributor to the beta emissions).

<u>Noise</u> – The WFSC does not affect the noise analysis in the GLE ER. This facility was operational when the baseline sound survey was conducted in 2007. Therefore impacts from noise from this facility were included in the survey.

<u>Historical and Cultural Resources</u> - The WFSC does not affect the historical and cultural analysis in the GLE ER. The structures that are currently used for the WFSC were existing structures at the time the GLE ER was prepared and thus were considered as part of the "Operations Area" in the GLE ER chapter 3 "Description of the Affected Environment" and there are no historical or cultural sites associated with the location of this facility.

<u>Visual and Scenic Resources</u> - The WFSC does not affect the visual and scenic resources analysis in the GLE ER. The facilities associated with the WFSC are similar in size and shape to the other operational facilities currently on-site. The structures that are currently used for the WFSC were existing structures at the time the GLE ER was prepared and thus were considered as part of the existing visual appearance of the site as described in the GLE ER chapter 3.

<u>Socioeconomic Environment</u> – The WFSC does not affect the socioeconomic analysis in the GLE ER. The analysis was performed using information from the region and anticipated GLE estimates, not site-specific information related to existing site facilities.

<u>Environmental Justice</u> - The WFSC does not affect the environmental justice analysis in the GLE ER. The analysis was performed using information from the region and anticipated GLE estimates, not site-specific information related to existing site facilities.

<u>Public and Occupational Health</u> – The air effluents from this facility are provided above. There are no process wastewater effluents from this facility. Therefore the primary pathway for public exposure from this facility is from air effluents. As shown in the table above, the air effluents from this facility are minimal, and will not adversely impact the public, as they are below the regulatory limits. The solid wastes from this facility are described below.

The worker hazards from this facility are similar to those at the FMO and include industrial accidents and exposure to radioactive materials. This facility does not process

UF6, therefore the hazards associated with the UF6 and its hydrolysis products (UO2F2 and HF) are absent. Chemical use in the WFSC is minimal and there are no unique hazards due to WFSC chemical use.

Measures to maintain worker exposure ALARA are described in the WFSC license application, which is included CD labeled "GLE Commercial Facility ER Followup – Disk 2". The file is labeled "12-07-07 065-0317-3\_License\_Amendment\_Submittal\_final.pdf". The recordable injuries for WFSC are included in the table above under question HH/R-9.

<u>Waste Management</u> - Liquid waste is stored in holding tanks that feed evaporators. The evaporators operate as necessary and can handle up to 200 gallons per day. The facilities generate approximately 4800 gallons of liquid waste per year from the ultrasonic cleaning tanks, decontamination sinks and the showers. The evaporator process creates <5 cu. ft./yr. of residue. This material is isolated and stored until sufficient volume is created to warrant a shipment to a licensed waste disposal facility.

Solid waste is of three general types: (1) wash-water treatment residues, (2) unserviceable equipment, i.e. underwater tools, poles, replaced parts, etc. and (3) low level contamination and radiation from discarded plastic, tape, rags, paper suits, etc. Radioactive waste is dried, bagged (with appropriate absorbent as necessary), and placed in a container for shipment to a licensed waste disposal or processing facility as appropriate. Control rod drives and associated contaminated components are returned to the utility if no disposal option is available. The storage containers are designated as radioactive waste and located in the container storage area. The low level radioactive waste area. The waste is prepared for shipment in accordance with the disposal facility's requirements. This may include solidification; incineration or other methods provided by either a licensed disposal facility or licensed waste processor.

The following practices within R&FS and FET will be used to keep radioactive waste volume to a minimum:

1. Compressible items are compacted to minimize radioactive waste volume as needed.

2. Unnecessary items are not taken into the contaminated zone.

3. Tools are decontaminated when practical so they can be reused rather than thrown away.