



June 27th, 2011

Nuclear Regulatory Commission, Region I
Attn: Licensing Assistant Team
Division of Nuclear Materials Safety
435 Allendale Rd
King of Prussia, PA 19406-1415
Attn: Kathy Modes

Subject: Additional Information – Amendment Request USNRC 06-20775-01

Dear Ms Modes:

EnergySolutions is providing the following information as requested regarding our license reciprocity request dated June 17th 2011 in support of the DOW Chemical work in Texas.

1) Estimated type, quantity and physical/chemical form of materials:

EnergySolutions estimates there is approximately 5,400 kg of source material associated with the Thoria catalyst in each chemical reactor for a total of 10,800 kgs. The catalyst is a solid oxide (ThO_2) with a specific activity of $1\text{E-}7\text{Ci/g}$. The total activity per reactor is about 0.5 Ci. It should be noted that EnergySolutions will only directly handle the catalyst for the new reactor during loading. The catalyst in the old reactor will not be directly handled. The catalyst is sealed in the chemical reactor and it will not be opened other than to disconnect any associated piping at which time it will be sealed with blank flanges for movement.

2) Specification of site location:

DOW Chemical Plant
2301 North Brazosport Blvd
Freeport, TX 77541

3) Description of project activities including waste management and disposition:

EnergySolutions has been contacted by DOW Chemical to handle their uncontained Thoria catalyst in order to load a new chemical reactor and to replace an existing reactor with the new one. DOW Chemical will receive the new chemical reactor and stage it in a three sided enclosure. EnergySolutions will take control of the new reactor and erect scaffolding and a loading platform in order to load the catalyst into the reactor.

Prior to work, a baseline survey will be performed to document the radiological condition of the area as a reference and to establish background. All personnel will be properly trained in accordance with the EnergySolutions Radiation Protection Program prior to commencing work. Once all personnel are properly training, the area will be prepared to control any contamination and the generation of airborne activity through the use of containment and HEPA ventilation as necessary. The area will be properly posted and controlled under a radiation work permit and any personnel entering the area shall wear the proper PPE and respiratory protection in accordance with the RWP. Routine surveys and air monitoring will be performed during the work to ensure the proper contamination controls.

Once loaded, the reactor will be sealed and prepared for movement to replace the reactor currently in the chemical process line. The exterior of the reactor will be surveyed including the work area and scaffolding. Once released, the old reactor will be take out and replaced with the new reactor. The old reactor will then be staged for storage by DOW under their Texas State radioactive materials license.

Upon completion, all work areas, tools and equipment will be decontaminated as necessary and surveyed for release. All consumables such as PPE and plastic used for drapes and containment will be packaged in metal B-25 containers for shipment and disposal.

4) Estimated project start data and durations:

The project will be mobilized July 10th / 11th at which time the project will be set up and personnel trained. Actual license activities will begin later that week or early the following week depending up area set-up and personnel training. The project duration is set to end on or before August 12th for an estimated duration of 4 to 5 weeks; however, work will likely be completed sooner.

5) Identification of and information on how to contact key project personnel:

The key personnel for the project will be:

Ben Sklar, Project Manager and Authorized User of the license
Cell number: 865-360-7409

Everett Chretien, Radiological Engineer and Authorized User of the license
Backup Radiation Protection Supervisor
Cell number: 865-250-9919

Chuck Irion: Radiological Engineer and Authorized User of the license
Primary Radiation Protection Supervisor
Cell number: 865-310-2009

DOW Chemical contact information will be provided upon request

If you have any questions or require additional information please contact me at (865) 250-2149 or email me at mcarr@energysolutions.com or Art Palmer, EnergySolutions Director of Health Physics and Radiological Engineering, at (865) 481-6325 or via email at ajpalmer@energysolutions.com.

Regards,



Michael A. Carr, CHP
Radiation Safety Officer
Global Commercial Group Ops
EnergySolutions

cc Art Palmer,
Ben Sklar,
Lori Czyz

Division of Responsibilities - Draft

The following is a summary of the licensed activities that EnergySolutions and DOW Chemical will be responsible under their respective Radioactive Materials licenses during the handling of the Thoria catalyst and reactor exchange.

EnergySolutions

EnergySolutions shall be responsible for the following activities under the EnergySolutions mobile NRC Radioactive Materials D&D license, 06-20775-01:


- Work area set-up (area postings, controls, radiological work permits and baseline surveys)
- Perform the direct handling of the uncontained Thoria catalyst and reactor loading.
- Posting and controlling the areas during catalyst handling and reactor exchange.
- Contamination controls during catalyst handling.
- Personnel monitoring for EnergySolutions project personnel and any DOW Chemical personnel entering a posted area under EnergySolutions control.
- Providing respiratory protection for catalyst handling.
- Perform air monitoring of the work area and downwind of material handling.
- Area surveys and equipment and material release.
- Waste handling and packaging.

DOW Chemical

DOW Chemical shall be responsible for the following activities under the DOW Chemical Texas Radioactive Materials License, L00451:

- Maintaining site security.
- Coordinating the transfer of the contained catalyst to the work location.
- Control of the balance of site.
- Monitoring DOW personnel outside posted areas as necessary.
- Maintaining ownership of the catalyst and waste materials.
- Installing the top reactor screen/baffle plate and reactor head.



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