

**DECLARATION OF DIANE D'ARRIGO**  
**IN SUPPORT of Joint Petitioners**  
**In the matter of Calvert Cliffs Nuclear Power Plant Unit 3**  
**Docket 52-016**

I, Ms. Diane D'Arrigo, hereby declare as follows:

1. I am the Radioactive Waste Project Director at Nuclear Information and Resource Service (NIRS) at 6930 Carroll Avenue, Suite 340, Takoma Park, Maryland 20912, and have been at NIRS for 22 years.

2. I am an expert on the policy aspects and general technical characteristics of so-called "low-level" radioactive waste. I hold a Bachelor of Science degree in chemistry with a course concentration in environmental studies and a postgraduate environmental law course. My work experience has been with industry research and development, academic research, laboratory analysis, public interest research, and environmental advocacy. I have closely followed the so-called "low-level" radioactive waste issue since the passage of the Low Level Radioactive Waste Policy Act and its Amendments, including efforts to site new waste repositories and to deregulate/declare "below regulatory concern"/release/clear the waste from radioactive regulatory control. I regularly make presentations and occasionally provide testimony to legislators and regulators on related topics. For over twenty five years I have been tracking and participating in policy-making and implementation of policies regarding the generation, disposal, management and deregulation of nuclear waste and materials, primarily from the operation of nuclear power plants and their fuel chain. My work has included research and public education on safety and environmental risks posed by wastes from the operation of nuclear power plants and the fuel chain and the regulations for disposal. I have spoken publicly and published articles on these topics.

3. I am familiar with the current situation in the United States with regard to “low-level” radioactive waste and with the legislative and regulatory history from the early 1980s up to the present. I am generally familiar with NRC policies and regulations with respect to “low-level” radioactive waste.

4. There is clear public concern about so-called “low-level” radioactive waste especially the highly concentrated, long-lasting, biologically active waste in Classes B, C and Greater-Than-C. The majority of the radioactivity in this waste comes from nuclear power reactors, such as the proposed Calvert Cliffs 3 nuclear power plant.

5. As of July 1, 2008, the Barnwell, South Carolina disposal site is limiting its access to waste generated within the Atlantic Compact (SC, NJ, CT). The US Ecology-run commercial radioactive waste disposal site at Hanford/Richland Washington already limits access to generators in the Northwest and Rocky Mountain States only. For the rest of the country, then, including Maryland, generators of Class B and C radioactive waste will have no licensed disposal site to which to send their waste. In addition, there is no disposal site for Greater-than-C radioactive wastes.

6. The nuclear utilities and the NRC are developing guidelines for extended long-term on-site storage of so-called “low level” radioactive waste at nuclear power reactors. This is not a responsible permanent solution for isolation of these long-lasting, highly concentrated radioactive wastes. As with high level radioactive waste, the outcome could likely be de-facto permanent onsite storage at the reactor site. Rather than assume off-site disposal will become available, UniStar should show that the Calvert Cliffs site can meet licensing criteria for disposal of the waste it generates. A likely and

completely realistic scenario is that the waste generated by Calvert Cliffs 3 will not leave the site.

7. In its application, UniStar has failed to address how its Class B, C and Greater-Than-C “low-level” radioactive waste will be disposed according to NRC regulations. If perpetual or extended on-site storage of these wastes is the “fall back” then this must be site-specifically addressed in the COL application, and it is not. This could significantly increase the safety and security of the site. Serious consideration must be given to meeting the NRC criteria for nuclear waste disposal at 10 CFR 61 or Maryland’s compatible Agreement State regulations.

8. Absent any known licensed disposal for Classes B, C and Greater-Than-C radioactive waste, the applicant must analyze the impacts of alternatives for its “low-level” radioactive waste disposal. The application is incomplete because there is no “realistic” alternative for nuclear waste isolation and disposal proposed. Reference is made guidance documents for onsite storage and to transport to Tennessee and Utah but none of these are licensed to dispose of Class B, C or Greater-Than-C waste, which will be generated by Calvert Cliffs 3.

9. Some so-called “low-level” radioactive waste can give high doses of radiation if one is exposed unshielded. According to the Government Accounting Office (GAO/RCED-98-40R Questions on Ward Valley, 5-22-98 pp. 49-52) some so-called ‘low-level’ radioactive waste can give a lethal dose at one meter, unshielded, in approximately 20 minutes. In addition, so-called ‘low-level’ radioactive wastes

“contain every radionuclide found in ‘high-level’  
radioactive waste...low-level radioactive wastes constitute

a very broad category containing many different types and concentrations of radionuclides, including the same radionuclides that may be found in high-level radioactive wastes.”

These include plutonium-239 (hazardous life 250 to 500 thousand years), iodine-129 (hazardous life 170 to 340 million years), strontium 90 (hazardous life 280-560 years) and cesium-137 (hazardous life 300 to 600 years).

10. It is imperative that the safety and security issues of extended on-site storage/de-facto disposal of radioactive waste be addressed in UniStar’s COL application. The Environmental Report in Section 3.5 simply describes the generation of waste during operations with the expectation of shipment offsite:

“Solid radioactive wastes are collected and packaged for temporary storage, shipment and offsite disposal.”

Section 3.5.4. Solid Radioactive Waste System describes collection, processing and storage but does not address long term storage onsite. Reference is made elsewhere to NRC guidance for extended storage but not potentially permanent or very long term storage.

“Once the activity has reduced to a low enough level, the drums are transported to an offsite repository for final disposal.”

UniStar states that the systems are:

“designed to minimize releases from reactor operation so values are as low as reasonably achievable (ALARA).

These systems are designed and maintained to meet the requirements of 10 CFR 20 and 10 CFR 50 App. I.”

These are the routine release levels and the applicant provides no detail regarding the ongoing onsite management and potential impact from storage of all the B, C and >C radioactive waste from operations on the site of generation.

11. Despite mention in Chapter 11 of the FSAR “Radioactive Waste Management,” the assumption appears to be that there will be a site that accepts the full range of waste generated at Calvert Cliffs. The Process Control Program, while explaining temporary storage, does not explain how the application will comply with the need for permanent disposal of long-lasting radioactive in the absence of licensed disposal facilities for Classes B, C and Greater-Than-C waste. Even waste sent offsite to vendors, it could be returned for storage in the absence of permanent disposal. The unsubstantiated assumption is made that the vendor will render all waste suitable for some offsite disposal site. This is not addressed in the COL.

12. The special location of the Calvert Cliffs site on water deserves deeper evaluation from the perspective of exorbitant water use, to potential contamination by routine releases and unintended possible radioactive and heat releases from reactor and waste processing, treatment and/or storage operations. The fact that numerous other reactors are in the same watershed should be factored in.

13. There is no justification provided for producing long-lasting, intensely radioactive wastes for which no disposal exists. There is no realistic plan for isolation of

the wastes or permanent disposal of the wastes. Considering the long history of failed so-called “low-level” radioactive waste disposal sites in the country, assumptions that new ones will be available are not justified.

I declare under penalty of perjury that the foregoing statements of fact are true and correct to the best of my knowledge and that the opinions expressed herein are based on my best professional judgment.

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Diane D'Arrigo  
Radioactive Waste Project Director  
Nuclear Information and Resource Service

Dated: November 19, 2008