

# SOUTHWEST RESEARCH INSTITUTE™

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May 3, 2001

U.S. Nuclear Regulatory Commission  
Division of Non-Proliferation, Exports and  
Multilateral Relations  
Office of International Programs  
Mail Stop OWFN-16 C1  
Washington, DC 20555

ATTN:Mr. Ronald D. Hauber, Director

Dear Mr. Hauber:

Pursuant to 10 C.F.R. Part 110, Southwest Research Institute ("SwRI") hereby requests written confirmation from the Office of International Programs, that SwRI activities described below, when such activities are for a foreign entity or involve the use of foreign national employees, are activities that fall outside of the scope of 10 C.F.R. Part 110 and thus do not require Nuclear Regulatory Commission ("NRC") authorization.

SwRI operates the Center for Nuclear Waste Regulatory Analyses ("CNWRA"), a federally funded research and development center ("FFRDC") for NRC. Its primary mission is to address the needs of the NRC, but the CNWRA is permitted by the NRC to conduct work under grants and contracts to other U.S. government agencies, certain foreign governments, and domestic and foreign private industry. The current and prospective foreign clients of the CNWRA include government organizations and private firms in France, Japan, the Republic of Korea, Sweden, Taiwan, and the United Kingdom. In no cases does the CNWRA engage in work for nations that are subject to U.S. embargo. Additionally, the CNWRA currently employs foreign national staff members (i.e., a national of a country other than the United States who is not a permanent resident of the United States) from Canada, Germany, India, Mexico, and Romania. The analysis and description of work that follows address the activities that are within the scope of technical responsibility of these individuals, although not every staff member works on every project.

## I. Background Regarding the CNWRA

### A. Three Program Areas of Work Conducted by the CNWRA

The scope of activities of the CNWRA is indicated in an extract from SwRI's most recent Annual Report (Attachment 1). The CNWRA conducts work in three program areas, consistent with the provisions of the Federal Acquisition Regulations (48 C.F.R. § 35.017) governing FFRDCs.



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First, the CNWRA conducts the preponderance of its work under a charter approved by the NRC on November 24, 1987 (the "Charter", Attachment 2). The Charter establishes that the CNWRA is to provide technical assistance and research in support of the NRC licensing reviews and other functions that it performs in accordance with the Nuclear Waste Policy Act (hereafter referred to as "NWPA-related work"). NWPA-related work encompasses geologic repositories, monitored retrievable storage facilities, transportation of radioactive materials, oversight of facilities used to process and solidify nuclear wastes, environmental assessments related to such facilities, and other activities involved in the storage, transportation, and disposal of high-level nuclear waste. Interim storage of spent nuclear fuel both at and away from commercial nuclear power reactors, and interim storage of spent nuclear fuel from U.S. naval operations are included in this area.

Second, NRC assigns work to the CNWRA that is outside this Charter, but within its areas of special competencies, as defined in 48 C.F.R. § 35.017 (hereafter referred to as "non-NWPA work"). Non-NWPA work includes licensing support to uranium mining, milling, and processing facilities; decommissioning and decontaminating radioactively contaminated facilities; hazard and safety assessments of facilities used to fabricate fuel assemblies for use in nuclear power plants; and associated environmental studies.

Third, NRC permits the CNWRA to conduct work under grants and contracts to other U.S. government agencies, certain foreign governments, and domestic and foreign private industry (hereafter referred to as "work for others"). Less than ten percent of the CNWRA work is in this program area. The Center's projects involve several different industries, including industrial chemicals, ferrous and non-ferrous metals, non-metallic materials, environmental and waste management, hazard and risk assessment, mining and construction, energy exploration and development, and petroleum production and distribution.

#### B. Areas of Technical Expertise of CNWRA Staff

Individual CNWRA staff members work in one of eight technical areas. These are geochemistry; hydrology; material sciences and corrosion; mechanical, chemical, and nuclear engineering; performance assessment; rock mechanics, mining, and geological engineering; structural geology, tectonics, and volcanism; and systems engineering. Attachment 3 lists the specific technical disciplines that encompass the skill set of the technical staff of the CNWRA. Each foreign national employee has expertise in one or more of these technical areas.

#### II. Technology Areas

To further expand on the information provided above, the following includes discussions of typical projects, types of facilities involved, types of work from which foreign clients and foreign nationals are excluded, and computer hardware and software used to conduct the work. Most of the

work conducted by CNWRA in each area may be categorized as "applied research and development," in that it focuses on solving particular scientific and engineering problems presented by the clients. A limited amount of work may be categorized as "fundamental research," in that it aims to discover new phenomena, identify means for measuring those phenomena, or develop new numerical techniques for predicting their occurrence.

#### A. Typical Projects

Projects involve providing technical assistance and research support to the NRC and other clients in review, evaluation, and licensing of facilities for mining, processing, storing, transporting, and disposing of nuclear materials. These materials arise from commercial endeavors and defense activities of the U.S. government. CNWRA provides technical support on hydrological, geochemical, geological, and geotechnical characterization of proposed sites; evaluations of waste container corrosion and strength properties; characterization of waste forms and their behavior; assessment of surface and underground conditions and designs; evaluation of nuclear criticality; and estimation of radiological risks and potential effects on the environment. Licensing support includes reviewing, evaluating, performing confirmatory tests and calculations, and inspecting the work and related documentation provided by the DOE and other licensees in the areas delineated in section IA above.

In addition, the CNWRA develops and applies methods, criteria, databases, and software to perform these analyses. Computer software is used to independently check the calculations performed by the licensee to ensure safe operations and adequate performance of the licensed facilities.

#### B. Types of Facilities Involved

The principal facility evaluated by the CNWRA is the proposed geologic repository for spent nuclear fuel and high-level nuclear waste at Yucca Mountain, Nevada. In addition, the CNWRA evaluates proposed independent spent fuel storage facilities located both at and remote from nuclear power plants. The CNWRA also supports NRC in oversight and licensing of facilities that are used to convert into stable disposable forms the wastes that resulted from commercial and DOE defense program reprocessing of nuclear materials. Reprocessing facilities for which the CNWRA provides supporting analyses include the Tank Waste Remediation System (TWRS), the Defense Waste Processing Facility, and the West Valley Demonstration Project. Other facilities that are evaluated by CNWRA staff include uranium mines, sites contaminated by radioactive slag from base metal extraction, and Department of Defense test facilities contaminated by depleted uranium projectiles.

#### C. Types of Work from Which Foreign Nationals are Excluded

On occasion, NRC assigns work to the CNWRA that requires access to or analysis of items that are classified, restricted to no foreigners, or identified as "safeguards and security" information. Only U.S. citizens with appropriate security clearances and a need to know are allowed access to

such items, as described in section III. In particular, no foreign nationals are permitted access to controlled items related to safeguards and security aspects of storage, transportation, or disposal of high-level nuclear waste. Furthermore, Indian foreign nationals are not given access to proprietary information, since such is not publicly available and the CNWRA cannot always determine why the information is proprietary (e.g., the company may use this designation to control its availability for export).

#### D. Computer Hardware and Software Used

Computer hardware used in the performance of this work consists of commercially available units, including personal computers and workstations with Windows, Windows NT, UNIX (both Sun Microsystems and Silicon Graphics Inc. versions), or LINUX operating systems. All hardware is provided by U.S. manufacturers or third-party vendors on the open commercial market. Software used by the CNWRA is commercially available, specially developed by others under U.S. government contract and available in the public domain, or developed by the CNWRA on behalf of its clients and later placed in the public domain (Attachment 4). No special encryption software (i.e., beyond what is installed on commercially procured personal computers and workstations) is used in any of these applications.

### III. Administrative Controls on Access to Technologies and Related Information

Virtually all of the work conducted by the CNWRA in the three program areas delineated above is free from government security classification or restriction on distribution. Furthermore, the information and technologies used by the CNWRA are generally in the public domain, as are the resulting work products, after clearance by the NRC. With few exceptions, the computer hardware, software, and databases used by CNWRA are also readily available in the public domain, or are made publicly available subsequent to development by the CNWRA. For classified and company-proprietary items, CNWRA has adopted the following administrative controls on access to technologies and related information:

- All classified materials, information, software, hardware, and the like (hereafter referred to as "items") provided to the CNWRA by its clients or produced by the CNWRA for its clients are controlled in accordance with applicable federal laws. These controls are administered by the SwRI Facility Security Officer, as described in the National Industrial Security Program Operating Manual (NISPOM) DoD 5220.22-M, and in the Employee Handbook for Safeguarding Classified Information (Attachment 5).
- Consistent with federal law, foreign nationals are prohibited from working on or with classified items, and all such materials are secured in a manner that prevents access to same in hardcopy, electronic, or other form.

- Company proprietary items provided to the CNWRA by its clients or produced by the CNWRA for its clients are controlled by the SwRI Employee Standards of Conduct and specifically in accordance with Non-Disclosure Agreements (NDA) approved by both organizations. Indian foreign nationals who conduct work for the CNWRA are not permitted access to proprietary information. All others who work for the CNWRA (i.e., U.S. citizens, immigrants, and non-immigrants from countries that do not trigger Commerce Department licensing requirements) are provided access to such information as allowed by the NDA and required in the performance of their work.
- SwRI and the CNWRA have implemented a full range of security measures to ensure that foreign nationals are restricted from accessing controlled items. Means to identify and control individuals include employee and visitor badges with names, photographs, and color-coding for non-U.S. citizens; the federal government security clearance system; and lock and pass code access to restricted areas. Means to control access to items include computer passwords, computer security firewall, removable computer hard-drives for safeguarding controlled information and software, security safes, and the like.

#### IV. Analysis of Applicability of NRC Export Controls

##### A. Previous Written Confirmation from NRC

We have previously reviewed 10 C.F.R. Part 110 and obtained a written confirmation from the Office of Governmental and Public Affairs regarding certain SwRI activities at the CNWRA (a subset of the activities described above as NWPA-related). In 1993, we examined 10 C.F.R. Part 110 to determine whether SwRI's planned performance of an environmental impact assessment for a proposed high-level nuclear waste repository in Sweden required authorization from the NRC. The CNWRA performed this work for the Swedish Radiation Protection Institute ("SSI"). This request was addressed to you in your capacity at the time as Assistant Director of Exports, Security, and Safety Cooperation. Your office concluded that the scope of work to be performed for SSI would fall outside of Part 110, since the activities would not involve the export of nuclear equipment or materials directly related to the production of such equipment and materials to the CNWRA foreign clients or foreign national employees. (Copies of the previous request and written confirmation are enclosed as Attachment No. 6). We also obtained confirmation from the DOE that the proposed environmental impact assessment did not require authorization from that agency, as well as a Commerce Department classification regarding certain SwRI activities at the CNWRA (again, a subset of the activities described above as NWPA-related.)

##### B. Review of Applicable NRC Regulations for All Program Areas

SwRI has reviewed the NRC regulations found in 10 C.F.R. Part 110 and determined that these regulations remain inapplicable for all work described in all the program areas. In particular,

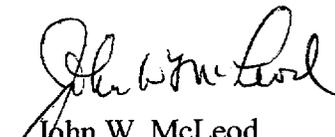
none of the CNWRA's work involves physical transfer or export of nuclear facilities and equipment or nuclear materials as defined in 10 C.F.R 110.8 and 110.9, respectively. Consequently, all such work is outside the scope of 10 C.F.R. Part 110 and is not subject to NRC licensing authority.

V. Conclusions

As described above, our analysis indicates the work of the CNWRA is not subject to the controls of NRC, as provided in 10 C.F.R. Part 110. We request that the NRC confirm the results of the foregoing analysis, and in particular that providing the type of services and technologies outlined above to CNWRA foreign client entities and employing foreign nationals, including Indian nationals, to conduct such work does not fall under the jurisdiction of NRC, and no authorization from NRC is required for SwRI to transfer the technology or perform the services.

In addition, we request expedited treatment for this request, and ask that this document be considered proprietary and SwRI confidential. If you have any questions concerning this request, please contact me at (210) 522-3368, or Dr. Wes Patrick, Vice President of SwRI and President of the CNWRA at (210) 522-5158, or Ms. Debbie Shaffer at (210) 522-6689. In addition, you are authorized to discuss this matter with Jack Shane or Tim Brightbill at the law firm of Wiley, Rein & Fielding in Washington, D.C.

Sincerely,



John W. McLeod  
General Counsel