

MAINE STATE LEGISLATURE

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State Nuclear Safety Inspector Office

May 2011 Monthly Report to the Legislature

Introduction

As part of the Department of Health and Human Services' responsibility under Title 22, Maine Revised Statutes Annotated (MRSA) §666 (2), as enacted under Public Law, Chapter 539 in the second regular session of the 123rd Legislature, the foregoing is the monthly report from the State Nuclear Safety Inspector.

The State Inspector's individual activities for the past month are highlighted under certain broad categories, as illustrated below. Since some activities are periodic and on-going, there may be some months when very little will be reported under that category. It is recommended for reviewers to examine previous reports to ensure connectivity with the information presented as it would be cumbersome to continuously repeat prior information in every report. Past reports are available from the Radiation Control Program's web site at the following link: www.maineradiationcontrol.org and by clicking on the nuclear safety link in the left hand margin.

Commencing with the January 2010 report the glossary and the historical perspective addendum are no longer included in the report. Instead, this information is available at the Radiation Control Program's website noted above. In some situations the footnotes may include some basic information and may redirect the reviewer to the website.

Independent Spent Fuel Storage Installation (ISFSI)

During May the general status of the ISFSI was normal. There were no instances of spurious alarms due to environmental conditions.

There were two fire related impairments in May. Both were associated with new cores bored through walls installing new conduits and wiring associated with security system upgrades. Both impairments were cleared when the penetrations were sealed and the conduit installation activities were completed.

There were no security related impairments for the month. However, four security events were logged. The first SEL involved a security alarm that was not responding as expected to a test condition. The equipment was adjusted and retested satisfactorily. The next two SELs were due to transient camera issues due to environmental conditions. The last SEL was written to document a temporary loss of the internet connection that lasted about twenty minutes.

There were three condition reports¹ (CR) for the month of May and they are described below.

- 1st CR: Documented the finding of the diesel transfer switch found in the manual rather than the automatic mode. The switch was moved to its proper position at the time of the discovery.
- 2nd CR: Documented a security test failure. The equipment was adjusted and retested satisfactorily the same day.
- 3rd CR: Documented some minor damage to a conduit that was bumped by construction equipment during a paving operation.

¹ A condition report is a report that promptly alerts management to potential conditions that may be adverse to quality or safety. For more information, refer to the glossary on the Radiation Program's website.

Other ISFSI Related Activities

1. On May 9th Maine Yankee submitted to the Department of Environmental Protection a revision to its Cumulative Risk Report that was issued in March of 2008. The Report evaluated the chemical and radiological risks in soils and groundwater at the site. The conclusions stated then that the chemical hazards drove the cumulative risks with the radiological risks contributing a very small portion to the risks. At that time there was less than two years worth of information from the radiological groundwater monitoring program. The purpose of the revision was to update the risk information from the recently terminated five year radiological groundwater monitoring program. The conclusions remain the same with the chemical risk dominating the overall residual site risk with a very small contribution from the radiological portion.
2. On May 16th Maine Yankee electronically submitted to the Nuclear Regulatory Commission its 2010 occupational radiation exposure record of each individual monitored at the storage facility in Wiscasset.

Environmental

As mentioned in the December 2010 report the State performed an assessment of its Radiological Environmental Monitoring Program around the Maine Yankee site. The purpose of the assessment was to consolidate the number of thermoluminescent dosimeters² (TLD) monitoring the ambient radiation levels near the ISFSI. Four of the fourteen Bailey Cove TLDs were reassigned as ISFSI TLDs to ensure coverage for the sixteen points of the compass. The four new stations were identified as N, O, P, and Q. Currently, only two stations remained as Bailey Cove stations. These stations were co-located with the State's solar powered environmental radiation monitors on the Maine Yankee site.

On May 19th the State received the first quarter results from the field replacement of its TLDs around the ISFSI and the Maine Yankee industrial site. The results from the quarterly TLD change out continued to illustrate three distinct exposure groups: elevated, slightly elevated and normal. The high stations identified were K and L and averaged 24.8 milliRoentgens³ (mR). K is explainable due to its proximity to the storage casks. However, L is not near the casks and has usually been in the normal group, except that it was in the slightly elevated group last quarter. Although Station L is located on top of the hill south of the ISFSI, it is near a ledge outcrop which could explain a higher radiation background.

The moderately high group station is usually comprised of four stations. This quarter, however, there were three TLD stations that fell into that group. They were E, F and G with an average of 21.7 mR. Station G which has historically been in the elevated group was slightly lower with a value of 22.8 mR. It was observed that station F had one element in one TLD that was excluded from the results due to a higher than expected reading. When this occurs the dosimetry company that reads the TLDs employs a statistical test to see if the data point is an outlier. If it is, it will be rejected and not included in their report. Upon further examination of the affected TLD for station F, the element readings were 17, 15, 18, 18, and 17 with an outlier reading of 20.6. In performing the statistical test for the outlier, it was noted that the data should not have been rejected. Therefore, the State accepted the outlier and the TLD average increased from 17.0 to 17.7 for station F. The remaining stations, A, B, C, D, H, I, J, M, N, O, P, and Q averaged 17.9 mR.

² Thermoluminescent Dosimeters (TLD) are very small, passive radiation monitors requiring laboratory analysis. For more information, refer to the glossary on the Radiation Program's website.

³ A milliRoentgen (mR) is a measurement of radiation exposure. For a further explanation, refer to the glossary on the Radiation Program's website.

The Maine Yankee industrial site TLDs averaged 16.6 mR, which is comparable to the normally expected background radiation levels of 15 to 30 mR on the coast of Maine. The background levels are highly dependent upon seasonal fluctuations in Radon, tidal effects, and local geology. The control TLDs that are stored at the State's Radiation Control Program in Augusta averaged about 24.9 mR. The field controls at Ferry Landing on Westport Island, Edgecomb Fire Station and the roof of the State's Health and Environmental Testing Laboratory read 19.7, 17.0, and 18.7, respectively.

All the first quarter TLD results were lower when compared to the previous quarter's results. That is to be expected as there are seasonal fluctuations in the radiation background due to frozen ground conditions and snow cover, which primarily impede the out gassing of natural radioactive Radon gas in the soils. Considering the higher than expected snowfall amounts this past winter, localized snowfall totals could have greatly influenced the TLD stations and may be a factor as to why for the first time that station G was not in the elevated group.

For informational purposes Figure 1 on page 4 illustrates the locations of the State's 17 TLD locations in the vicinity of the ISFSI. The State's locations are identified by letters with the two highest locations being stations K and L.

Maine Yankee Decommissioning

On May 27th the State Inspector performed his last survey of the East Access Road. A survey of the East Access Road abutting the bermed area of the ISFSI was the last outstanding item remaining for the State to complete its decommissioning activities. Initial surveys identified elevated radiation levels in excess of 30,000 counts per minute due to its proximity to the ISFSI. The elevated levels could potentially mask contaminated areas. Therefore, the State monitored the levels yearly to see how long it would take for the radiation levels to decrease to 20,000 counts per minute to perform a final survey. However, the State decided last fall that it would perform one final survey this spring, document its findings and issue a closure letter to Maine Yankee.

Groundwater Monitoring Program

The State completed its review of the fifth and final groundwater report. Most of the comments were editorial in nature. Some comments may require some minor changes to the report and the Department of Environmental Protection's electronic data deliverable database. There were two questionable results for one well, MW-502. It appears that the tracer recoveries for two radiological tests were below the acceptable range agreed upon as denoted by an independent third party evaluation. Further discussions on this issue are expected. However, these discussions should not affect Maine Yankee's closure activities of the radiological monitoring wells on-site, except for possibly delaying the closure of well MW-502 should an additional sample and re-analysis be required.

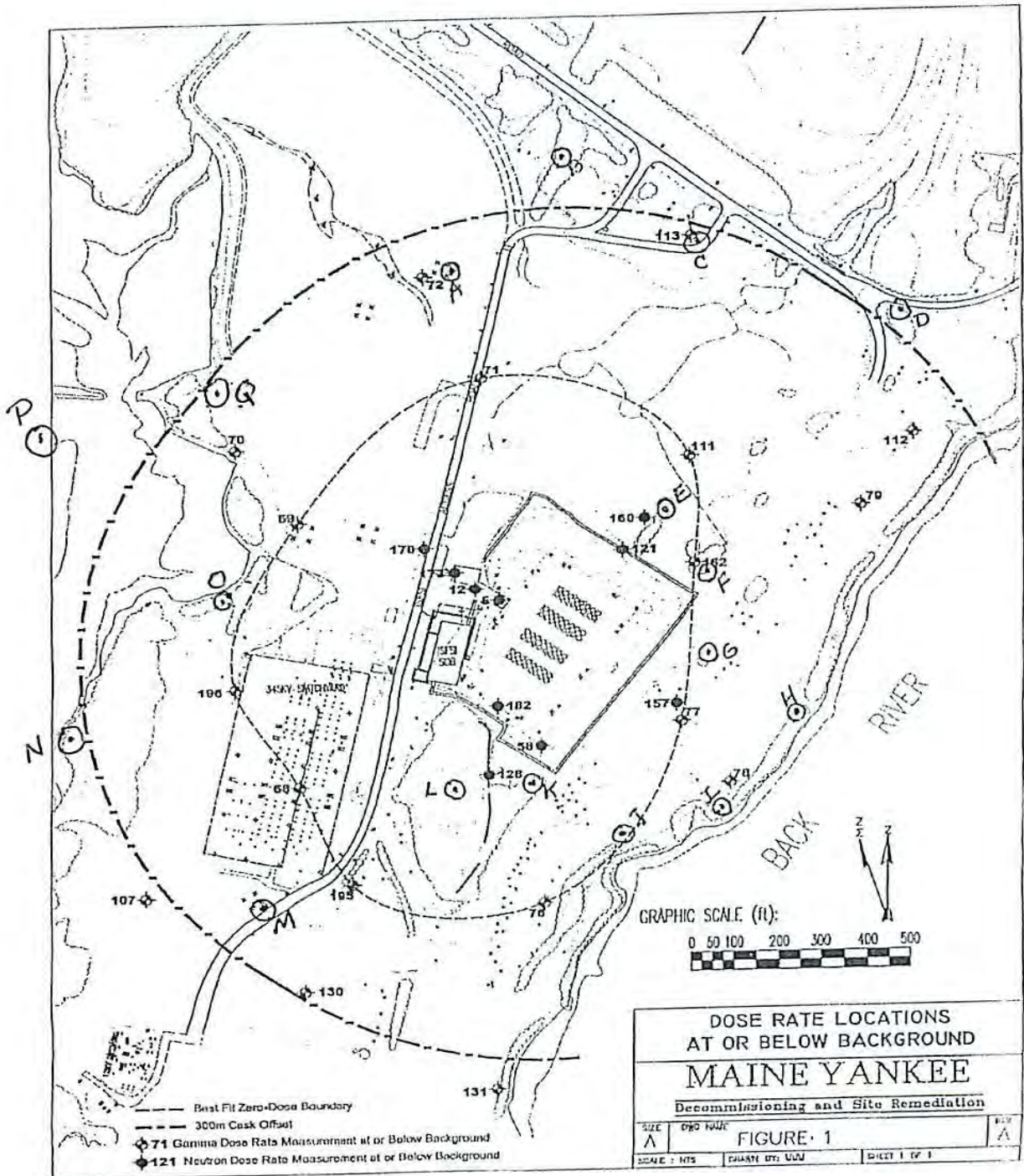
Other Newsworthy Items

1. On May 2nd the Staff of the Nuclear Regulatory Commission (NRC) filed with the NRC's Atomic Safety and Licensing Board (ASLB) its response to the Department of Energy's (DOE) motion for clarification relative to their Yucca Mountain documents submittal to the NRC and status report regarding the ASLB's April 11th Order for the preservation of the Yucca Mountain documents in "PDF" format for the NRC. The NRC Staff opposed the DOE motion until its April 21st motion was resolved. However, the Staff was willing to accept documents provided DOE met the following three conditions. The documents were:

- “on high capacity external drives that can connect to Microsoft Windows computers with universal serial bus (USB) interfaces,
- the format and file system is compatible with Microsoft Windows, and
- the DOE’s portable document format (PDF) files are enabled for Fast Web Viewing.”

On the same day Nevada also filed with the NRC’s ASLB its response that it did not object to the DOE’s motion for clarification and status report regarding the ASLB Order.

Figure 1



2. On May 2nd the House Committee on Energy and Commerce issued a memorandum indicating that a joint hearing of the Subcommittees on Energy and Power and Environment and the Economy was held to discuss “The Role of the Nuclear Regulatory Commission (NRC) in America’s Energy Future”. Four of the five Nuclear Regulatory Commissioners would testify regarding four major topics of interest including the NRC’s review of the Department of Energy’s license to construct a geologic repository at Yucca Mountain. A copy of the memorandum is attached.
3. On May 2nd the State of Nevada also filed with the Nuclear Regulatory Commission’s (NRC) Atomic Safety and Licensing Board (ASLB) its response that it took no position and did not object to the NRC’s Staff April 21st request for leave to file a motion for reconsideration of the ASLB’s April 11th Order”.
4. On May 3rd the Energy Communities Alliance (ECA) sent a letter to Energy Secretary Chu requesting:
 - a review of the safety and security of defense-related high-level-waste and spent fuel storage due to the recent Fukushima event in Japan,
 - a review of the impacts on local communities of long term storage of high-level waste and spent fuel, and
 - an analysis of the costs and impacts on cleanup budgets of storing and securing waste at Department of Energy (DOE) sites.

The ECA is an organization of local governments adjacent to and impacted by DOE activities. A copy of the letter is attached.

5. On May 3rd the Nuclear Waste Strategy Coalition sent a letter to the Co-Chairs of the Blue Ribbon Commission (BRC) on America’s Nuclear Future commenting further on the BRC’s “What We’ve Heard” Report. The letter raised a couple points of contentions with the BRC’s Report, such as Energy Secretary Chu’s termination of the Yucca Mountain Program was more for political rather than scientific considerations and that local Nevada communities where Yucca Mountain is located were more supportive than opposed to the project. A copy of the letter is attached.
6. On May 4th White Pine County, Nevada filed with the Nuclear Regulatory Commission’s (NRC) Atomic Safety and Licensing Board (ASLB) that it had not identified any additional party or other witnesses to the Yucca Mountain license proceedings.
7. On May 4th the Nuclear Waste Strategy Coalition held its bi-weekly conference call to update its membership on the Department of Energy’s May 13th Blue Ribbon Commission meeting, the reconfirmation of Nuclear Regulatory Commissioner Ostendorff, and congressional activities such as the May 4th hearings of the House Subcommittees on Energy and Power and Environment and the Economy on “The Role of the Nuclear Regulatory Commission (NRC) in America’s Energy Future”. Four of the Five NRC Commissioners were scheduled to testify before the Subcommittees. The discussions included the NRC’s responsibility and decision making process with regards to the Yucca Mountain license application. A copy of the hearing memo is attached.
8. On May 4th the House Subcommittees on Energy and Power and Environment and the Economy held a joint hearing on “The Role of the Nuclear Regulatory Commission in America’s Energy Future”. The opening statements of the Chair of the Subcommittee on Environment and Economy, Representative John Shimkus, and Ranking Member of the House Committee on Energy and Commerce, Representative Henry Waxman, are attached.

9. On May 5th Representative Henry Waxman, Ranking Member of the House Committee on Energy and Commerce, sent a letter to Representative John Shimkus, Chair of the Subcommittee on Environment and Economy, that took issue with the Chairman's remarks about his line of questioning at the joint hearing with the Nuclear Regulatory Commission Chairman Jaczko's actions to terminate the Yucca Mountain license review. A copy of his letter is attached.
10. On May 9th the Chairs of the House Committee on Energy and Commerce and Subcommittee on Environment and Economy sent a letter to Chairman Jaczko of the Nuclear Regulatory Commission (NRC) requesting his immediate assistance with the Committee's investigation of the Department of Energy's license application before the NRC by ensuring that all NRC employees were notified "of their right to communicate with Congress". A copy of the letter is attached.
11. On May 9th the House Committee on Energy and Commerce issued a press release on the Government Accountability Office's report indicating that the Administration's haste to shutdown Yucca Mountain could set back disposal of spent nuclear fuel 20 years. The report also cited the decision to terminate the project as politically motivated. Additional information on the report is presented in number 12 below. A copy of the press release is attached.
12. On May 10th the Government Accountability Office (GAO) released its April 8th report: "COMMERCIAL NUCLEAR WASTE Effects of a Termination of the Yucca Mountain Repository Program and Lessons Learned". The report examined:
 - a) the reasoning for the Department of Energy's (DOE) decision to discontinue the Yucca Mountain program,
 - b) the shutdown steps DOE took and their effects,
 - c) the major impacts if the repository were shuttered, and
 - d) the principal lessons learned.

The GAO report recommended that "Congress consider whether a more predictable funding mechanism would enhance future efforts and whether an independent organization would be more effective". The GAO report also recommended that "DOE assess remaining risks of the shutdown; create a plan to resume licensing if necessary; and report on federal property and its disposition". The Nuclear Regulatory Commission (NRC) and the Department of Energy (DOE) were allowed to comment on a draft report. The NRC had no significant comments on the draft whereas the DOE had 14 pages of comments that strongly disagreed with the draft and its recommendations, and questioned the integrity of GAO's information. GAO maintained that its findings and recommendations were sound.

13. On May 10th-12th the Department of Energy (DOE) held its second annual National Transportation Stakeholders Forum in Denver. The meeting covered numerous topics including state regional and tribal groups and their interface with the DOE, DOE planned shipments and lessons learned, rail inspections and lessons learned, enhancements to shipment security, and emergency and medical preparedness training for states and tribes. DOE uses the Forum as a mechanism to communicate and collaborate with states and tribes at the national level about the Department's shipments of radioactive waste and materials. A copy of the agenda is attached.
14. On May 12th Chairman Jaczko of the Nuclear Regulatory Commission (NRC) sent a letter to Chair of the House Committee on Oversight and Government Reform responding to the Committee's investigation of Chairman Jaczko's decisions and actions to close down the Yucca Mountain license proceedings. Attempts were made to secure a copy of Chairman Issa's March 11, 2011 letter but were unsuccessful. A copy of the May 12th letter is attached.

15. On May 13th the Blue Ribbon Commission (BRC) on America's Nuclear Future held a meeting to discuss the Nuclear Regulatory Commission's recent actions involving spent nuclear fuel storage in light of Japan's Fukushima reactor accidents in addition to presentations from its three Subcommittees on their draft recommendations for managing the nation's nuclear waste stockpile. Each Subcommittee had several recommendations. Two of the Transportation and Storage Subcommittee recommendations resonated well with the State and the Northeast. They were the establishment of "one or more consolidated interim storage facilities" and that spent nuclear fuel from "decommissioned reactor sites" receive priority in shipping their wastes to an interim storage facility. Copies of the agenda and the Subcommittee recommendations are attached.
16. On May 18th the Nuclear Waste Strategy Coalition (NWSC) held its second bi-weekly conference call to update its membership on the current status of the FY 2012 Appropriations hearings and mark-up in the Senate and the House, the draft recommendations from the Blue Ribbon Commission's three Subcommittees, the status of Nuclear Regulatory Commissioner Ostendorff's reconfirmation, and the recent reports issued from the Government Accountability Office. The NWSC is an ad hoc group of state utility regulators, state attorneys general, electric utilities and associate members representing 45 stakeholders in 32 states, committed to ensuring that the Department of Energy and Congress carry out the principles outlined in the Nuclear Waste Policy Act, as amended.
17. On May 19th the Office of Inspector General (OIG) of the Nuclear Regulatory Commission (NRC) released its Audit Report: "Audit of the NRC's Oversight of Independent Spent Fuel Storage Installations Safety". With the termination of the Yucca Mountain repository program it was expected that by the year 2025 all commercial nuclear power plants in the United States will have operating ISFSIs. In addition, the NRC's Waste Confidence Rule, published on December 23, 2010, allowed for longer on-site storage of spent nuclear fuel. Consequently, the NRC has been reviewing the issues associated with long-term storage. The OIG found that inspection frequencies of ISFSIs were not clearly defined between the four NRC Regions, which resulted in inspections varying from one to almost six years. OIG also noted that there was no formalized agency wide training program, which resulted in safety inspectors having inconsistent understandings of agency requirements, of ISFSI inspection requirements, of ISFSI enforcement requirements and of the role of resident inspectors at operating sites with ISFSIs. Although there have been no significant issues at ISFSIs, without consistent "inspection requirements oversight can be compromised, which could result in an increased risk to public health and safety." Therefore, OIG identified ISFSI safety inspector training and frequency of routine inspections as improvement opportunities.
18. On May 31st the Blue Ribbon Commission (BRC) on America's Nuclear Future's Subcommittee on Transportation and Storage issued its draft report to the full Commission on its findings and recommendations. The seven recommendations are essentially the same as those presented at the May 13th BRC meeting but were expanded to better frame the recommendations. The report addressed five broad categories:
 - Technical and Regulatory Considerations for Extended Interim Storage and Transport
 - Consolidated Interim Storage
 - Management and Financing Considerations
 - Existing Potential Interim Storage Sites: Process Issues
 - Transportation Issues

There were several key findings in each category. A copy of the recommendations from the executive summary is attached.

Other Related Topics

1. On April 6th the Governor of Massachusetts, the Senate President and the Speaker of the House sent a letter to Chairman Jaczko of the Nuclear Regulatory Commission requesting assurances about the operational safety of the Pilgrim nuclear power station and its storage of spent nuclear fuel, an assessment of seismic vulnerabilities and providing information on relicensing activities. The letter also alluded to a list of specific questions from the Massachusetts Legislative leadership. A third of the twenty-two questions posed were on spent fuel management. Copies of both letters are attached.
2. On April 15th the U.S. Nuclear Waste Technical Review Board sent a letter to the Speaker of the House, Senate President Pro Tempore and Energy Secretary Chu submitting their report: “Experience Gained From Programs to Manage High-Level Radioactive Waste and Spent Nuclear Fuel in the United States and Other Countries” as part of their legislative directive to report their findings and recommendations to Congress and the Secretary of Energy. The report examined “the efforts of 13 countries to find a permanent solution for isolating” spent nuclear fuel and high-level waste from the biosphere. The report not only updated a previous report’s findings but was timely considering the current deliberations and drafting of recommendations from the Blue Ribbon Commission on America’s Nuclear Future. The report highlighted major summary points in eight broad categories such as:
 - Process Considerations
 - Development, Assessment, and Adoption of Waste Management Options
 - Institutional Arrangements for Executing Waste Management Programs
 - Technical Basis for Developing Disposal Concepts and Supporting a Safety Case
 - Substance and Adoption of Health and Safety Standards and Regulations
 - Strategies for Identifying Candidate Sites for a Deep-Mined Geologic Repository
 - Site Selection for a Deep-Mined Geologic Repository
 - Approval to Construct a Deep-Mined Geologic Repository

The report also included technical reviewers from Germany, Italy, United Kingdom, Sweden and France. The report had four general conclusions. Copies of the letter and the conclusion section are attached.

3. On April 28th Chairman Jaczko of the Nuclear Regulatory Commission (NRC) responded to the Chair of the House Committee on Science, Space, and Technology, Representative Hall, on his request for an unredacted copy of the NRC Staff’s draft Volume III of the Safety Evaluation Report (SER) on the Yucca Mountain license application. Chairman Jaczko ordered the release of the draft SER with reservations. In addition, Chairman Jaczko provided specific responses to Representative Hall’s questions on the SER Volume III and the shutting down of support activities for the Yucca Mountain license proceedings. A copy of the letter is attached.
4. On April 29th the House Committee on Energy and Commerce’s Chair, Chair Emeritus and three Chairmen of its Subcommittees sent a letter to the Comptroller General of the Government Accountability Office (GAO) requesting that the GAO update its 2003 report on “Spent Nuclear Fuel: Options Exist to Further Enhance Security”. With the termination of Yucca Mountain Project and Japan’s Fukushima incident, the letter also requested that the update examine and include additional information from five areas. A copy of the letter is attached.