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Pedersen, Roger

From: Stewart Schneider
Sent: Thursday, January 18, 2007 5:13 PM
To: Sheryl Burrows; Cyndi Jones; Charles Hinson; Sami Sherbini; Roger Pedersen
Subject: Re: RUBI Rulemaking - Working Group Meeting to Resolve Public Comments
Attachments: RUBI COMMENT ANALYSIS TABLE.wpd; REV 1 -FINAL RULE SCHEDULEOCCUPATIONAL DOSE RECORDS.wpd

Attached you will find the revised public comments table and the final rulemaking schedule.

Additionally, Charlie responded that he can't make the meeting that I scheduled for Tuesday, he has training all day. Charlie further noted that "Thursday morning and possibly Friday, any time, but I may take Friday off-not sure yet." If everyone can get back to me and indicate that they can meet on Thursday morning, I will change the time to Thursday. If however, everyone (except Charlie) indicates that they can meet on Tuesday, as I scheduled, then we will meet as scheduled and I will meet with Charlie separately to get his input and discuss the outcome of the working group meeting with him. How does that sound?

Please will each of you get back to me with your input ASAP so that I can make a final decision.

Thanks.

Stewart

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COMMENT ANALYSIS
PROPOSED RULE PARTS 19, 20, AND 50
(71 FR 55382)

COMMENT PROFILE			
Comment No.	**Date**	**Commenter**	**Response**
1.	09/25/06	Alan Jackson, MS, CHP Radiation Safety Office Henry Ford Hospital Detroit, MI 48202 *(Comments submitted as an individual.)*	• Applied health physicist at a large medical research institution. • Experience in providing support to university research use including research reactors. • Received via email to SECY.
2.	09/26/06	Norris Johnson Savannah River Site Washington Savannah River Company Building 730-1B Aiken, SC 29808 *(Comments submitted as an individual.)*	• Comment is made as a member of the public, not as a representative of the Washington Savannah River Company or the Department of Energy. • Received via email to SECY.
3.	10/01/06	Jason D. Hout *(Comments submitted as an individual.)*	• Received via the NRC Rulemaking Web site.
4.	10/03/06	Megan Lysaght California Lutheran University 101 Memorial Pkwy #2310 Thousand Oaks, CA 91360 *(Comments submitted as an individual.)*	• Received via email to SECY.
5.	10/12/06	Eric Boeldt, CHP 400 South Gill Street State College, PA 16801 *(Comments submitted as an individual.)*	• Radiation Safety Officer of a large university research institution. • Received via email to SECY.

COMMENT PROFILE			
Comment No.	**Date**	**Commenter**	**Response**
6.	10/13/06	Walston Chubb, Consultant Nuclear Materials & Radiochemistry 4953 Cline Hollow Road, #244 Murrysville, PA 15668-1591 *(Comments submitted as an individual.)*	• Received as a letter.
7.	10/31/06	Britt T. McKinney Sr. Vice President & Chief Nuclear Officer Susquehanna Steam Electric Station Comments by PPL Susquehanna *(Comments submitted as an industry stakeholder.)*	• Received as a letter.
8.	11/21/06	Lloyd A. Gray, Director Radiation Safety & Environmental Compliance Acuren - Materials Engineering & Testing 101 Underwood Rd. Bldg J La Porte TX 77571 *(Comments submitted as an industry stakeholder.)*	• Spoke with commenter on 12/12/06 to clarify if comment was submitted as an individual or as an licensee/industry stakeholder. • The commenter reiterated to me that the proposed rule change should be very clear that ... Prior Dose Records for the Current Year Must Be Obtained . before permitting an individual to have access to a radiation area. • Received via email to SECY.
9.	11/17/06	Leonard R. Smith, CHP CORAR Manufacturing Quality and Safety Committee. Council on Radionuclides and Radiopharmaceuticals, Inc. (CORAR)	• Received as a letter.

COMMENT PROFILE			
Comment No.	**Date**	**Commenter**	**Response**
		3911 Campolindo Drive Moraga, CA 94556-1551 *(Comments submitted as an industry group.)*	
10.	10/23/06	Leah R. Morrell Manager, Licensing & Safety Analysis (Licensing Officer) P.O. Box 705 Lyncburg. VA 24505-0785 *(Comments submitted as an industry stakeholder.)*	• Received as a faxed letter.
11.	12/05/06	Marion Loomis Executive Director Wyoming Mining Association *(Comments submitted as an industry stakeholder.)*	• The Wyoming Mining Association (WMA) is an industry association representing mining companies, contractors, vendors, suppliers and consultants in the State of Wyoming. Among its mining industry members are uranium recovery licensees, including Power Resources Smith Ranch-Highland Project, COMIN's Irrigary/Christiansen Ranch Project, the Sweetwater Uranium Project, several companies conducting final reclamation operations and several companies considering becoming producers. • Received as a letter attachment to an email.
12.	12/06/06	Sandy J. Wolff, MS, CHP, DABR Radiation Safety Officer, Sentara Hospital	• As a member of AMRSO, I submit their position as my position as well.

COMMENT PROFILE			
Comment No.	**Date**	**Commenter**	**Response**
		Academic Medical Radiation Safety Officers (AMRSO)	• AMRSO is a moderated listserve whose membership, by group consent, is restricted for size considerations to RSOs or a designee at medical and academic/research institutions only. At present there are over 400 members of AMRSO. • Please note that these comments are a consensus of the AMRSO and as such do not necessarily reflect the opinion of any individual member or the moderator. • Received via email to SECY.
13.	12/06/06	Gerald L. White, Jr., FAAPM Chair AAPM Professional Council American Association of Physicists in Medicine One Physics Ellipse College Park, MD 20740-3846 Laura I. Thevenot Executive Director American Society for Therapeutic Radiology and Oncology (ASTRO) 8280 Willow Oaks Corporate Drive, Suite 500 Fairfax, VA 22041	• Comments offered by the American Association of Physicists in Medicine (AAPM) and the American Society for Therapeutic Radiology and Oncology (ASTRO). • Received as a letter.
14.	12/11/06	Oscar Paulson Facility Supervisor	• Received as a letter attachment to an email to SECY. • Kennecott Uranium Company is a uranium recovery

COMMENT PROFILE			
Comment No.	**Date**	**Commenter**	**Response**
		Rio Tinto Energy America Kennecott Uranium Company PO Box 1500 Rawlins, Wyoming 82301-1500	licensee (Source Material License SUA-1350) which operates and manages the Sweetwater Uranium Project, located in Sweetwater County, WY. The Sweetwater Uranium Project is the last remaining conventional' uranium mill in WY and one of the last four remaining conventional uranium mills in the US.
15.	12/20/06	Ralph L. Andersen Director, Health Physics & LLRW Nuclear Generation Division Nuclear Energy Institute	• Received as a letter attachment to an email to SECY.

OVERALL COMMENTER POSITIONS		
Comment		**Position**
No.	Favor	
1.	✓	In general the proposed rules are quite reasonable and I applaud the Commission's efforts to reduce these unnecessary regulatory burdens.
2.	↔	NO COMMENT.
3.	↔	NO COMMENT.
4.	✗	I personally do not agree that the NRC should amend its regulations related to the reporting of annual dose to workers, the definition of the total effective dose equivalent, the labeling of certain containers holding licensed material, or the determination of cumulative occupational radiation dose. While the revisions may reduce the administrative and information collection 'burdens' (this emotional word is propaganda; the NRC should have simply used the term 'work'), the revisions do affect the level of protection to the health and safety of the worker at least, if not the public and the environment. My case for the worker revolves around the negligence in accurate/complete labeling for certain containers holding 'licensed materials' and the disposal of the determining system of cumulative occupational radiation dose. The NRC workers, above all else, deserve the best and most effective protection from a company that daily exposes them to danger.
5.	✓	In general the proposed rules are quite reasonable and I applaud the Commission's efforts to reduce these unnecessary regulatory burdens.
6.	↔	When Congress enacted the Energy Reorganization Act of 1974, it did so under the influence of a fearsome, feudal, Shinto religious belief. It adopted that belief as the basis of its unsupported charge that nuclear radiations were an intolerable threat to the health of the public. This unsupported belief was and continues to be promoted by the National Academies of Science. This belief prevails in spite of the fact that radiations from 400 operating nuclear, water-moderated power plants have caused no serious injuries in over 40 years. Perhaps, the first amendment was wise to advise against the promotion of religious beliefs.
7.	✓	PPL appreciates the efforts of the Nuclear Regulatory Commission (NRC) in proposing rules to reduce unnecessary regulatory burden. Each of the four principal amendments would in fact reduce unnecessary regulatory burden. In that context, the cost-savings estimates used by NRC for a nuclear power plant site are reasonable, from the perspective of PPL. On page 55389, in Section VIII, NRC requests comments on clarity of language in the proposed rule changes. PPL believes that the language appears to be reasonably clear and offers no substantive comments. On page 55389, in Section XI, NRC requests responses to several questions. PPL believes that the information proposed to be

OVERALL COMMENTER POSITIONS		
Comment		**Position**
No.	Favor	
		collected, via the proposed rule changes, enhances regulatory efficiency and reduces unnecessary regulatory burden on licensees. The implementation-burden and cost-savings estimates for nuclear power plant licensees are reasonable. The proposed rule appears to be reasonably clear in their language. There are electronic methods by which dosimetry results may be submitted to the NRC. There remain opportunities for NRC staff to enhance the generically available means to determine effective dose equivalent by dosimetry methods approved by NRC; such enhancement is recognized as falling outside the scope of the current proposed rule.
8.	↔	NO COMMENT.
9.	✓	CORAR members and their customers are NRC and Agreement State licensees and are, therefore, interested in the first, third and fourth proposed amendments to the regulations that affect material licenses. (Note: Only the first and fourth proposed amendments were commented on.) CORAR continues to support NRC proposal and provides more extensive justification for preferring a requirement to notify radiation workers above 10% of the occupational limits as opposed to above the NRC's proposed 100 mrem. CORAR appreciates the NRC's intent to reduce regulatory burden. CORAR also appreciates the opportunity to comment and would be glad to provide clarification or further comments as needed.
10.	✓	BWXT commends the Nuclear Regulatory Commission's efforts to reduce the administrative, and information collection burdens on the NRC and Licensees and appreciates the opportunity to comment on the proposed changes. BWXT: • Endorses the proposed changes to 10 CFR 20.1003 'Definitions" and 10 CFR 50.2 "Definitions." • Endorses the proposed change to 10 CFR 20,2104(a)(2). • Proposes revisions to the proposed changes to 10 CFR 19.13 and 10 CFR 20.195, in order to ensure that 10 CFR Part 70 licensees can realize the benefits of the proposed revisions. The Attachment contains discussion of BWXT's suggested revisions. Without these revisions, 10 CFR Part 70 licensees will be excluded from the significant benefits of the changes for no real reason.
11.	✓	WMA supports the changes to the "Annual Dose Report to Workers" and "Cumulative Occupational Radiation Dose."
12.	✓	AMRSO supports the changes.

OVERALL COMMENTER POSITIONS		
Comment		**Position**
No.	Favor	
13.	1. ✓ 2. ↔ 3. ✗ 4. ↔	AAPM and ASTRO General Comments: Although the proposed changes were generated from concerns/issues raised by the nuclear power industry, as currently proposed these changes will affect ALL radiation workers. Especially because Agreement States regulate all occupational personnel who use radioactive materials and radiation producing-machines, the ramifications of these proposed changes will extend significantly beyond the nuclear power industry. The largest component of occupational workers nationally is medical and research radiation workers. This group has been neglected in NRC reporting summaries of 10 CFR § 20.2206. As a result, the largest, low-dose, occupationally exposed population has no historical assessment by the NRC. We are concerned that materials licensees may not have focused on the initial request for input since these proposed changes were originally proposed for 10 CFR Part 50. We believe that it is not appropriate for the Commission to construe that materials licensees are not concerned because they may not have responded to the Advanced Notice of Rulemaking over two years ago for what appeared as changes to Part 50 only.
14.	✓	Kennecott Uranium Company supports the proposed changes to the Annual Dose Report to Workers and Cumulative Occupational Radiation Dose. (No comments provided on TEDE or Labeling Containers.)
15.	✓	These comments are provided by the Nuclear Energy Institute (NEI), on behalf of the nuclear energy industry, in regard to the Nuclear Regulatory Commission (NRC) proposal to conduct rulemaking to reduce unnecessary administrative and information collection burdens on licensees without affecting the level of protection to either the health and safety of workers and the public or the environment. These comments were developed with the assistance of an industry task force of nuclear power reactor radiation safety managers and health physicists. NEI supports the intent of the proposed rule. Based on specific input from member company licensees, NEI concludes that each of the proposed changes, when issued as a final rule, will have the effect of reducing unnecessary regulatory burden on licensees without affecting the adequate level of protection of health and safety afforded by the current rule.

KEY

✓ Commenter is generally *in favor* of the proposed rule.
↔ Commenter expressed no position on being *for* or *against* the proposed rule.
✗ Commenter is *not in favor* of the proposed rule.

ACTUAL COMMENTS

ANNUAL DOSE REPORT TO WORKERS	
Comment No.	**Response**
1.	I believe that the 100 mrem criterion is quite reasonable. In hospital and university programs, very large numbers of employees are given dosimeters. In some cases it is part of an effort to build public trust. These efforts should not be complicated by a need to provide these dose reports. The cost savings to hospital and universities would appear to be larger that those indicated by previous commenters due to the large number of employees involved. This task of providing reports can be difficult to the ephemeral nature of our workers. In many cases it is necessary to provide dosimeters to groups such as students because of some very small probability that they will do something unexpected that will result in any exposure above 100 mrem.
2.	NO COMMENT.
3.	I am writing to comment on a proposed rule to eliminate the need for reporting annual dose to workers as long as the dose received is less than lmSv (100mrem). Ibelieve this rule is at least, partially inadequate. While I do agree that this rule will potentially relieve an administrative burden, there exists a flaw. If there is an operator who is expected to receive a special planned exposure, dose records must be obtained from previous employers. I believe this portion is not adequate. The reason for obtaining an employee's lifetime exposure is to allow for a total risk assessment in planned and emergency situations. There is great potential for someone to exceed the lifetime exposure limit during an emergency situation. Granted, in an emergency situation the dose limits do not necessarily apply, but if there is an opportunity for another employee who will probably not exceed their lifetime exposure to perform the tasks, it should be taken. Therefore, I propose that the rule be amended to not require employers to retrieve all previous exposure information, but require the employee to retrieve this data. This will alleviate an administrative burden on the employer, and allow the employee to show a little dedication to working for the employer. I agree with the dose reporting requirements with the exception of one part. There should be a reporting requirement at the termination of employment or if the employee develops a medical condition which could potentially affect their ability to receive occupational exposure. If an employee terminates employment and seeks new employment at a different employer, then they need to be notified of their dose so that they may inform their new employer.
4.	NO COMMENT.

5.	I believe that the 100 mrem criterion is quite reasonable for required reporting to monitored workers. This 100 mrem is significantly above normal background so that it will be reporting a real exposure for which the individual should be informed. At my institution many employees are given dosimeters but probably only about 5% need them by the current regulations. In many cases they are issued to provide long term comfort to administration rather than to provide for safety of the workers. Others are issued to provide comfort to personnel using minimal amounts of radioactive material * in an effort to reduce the fear factor. There are even janitors and secretaries issued dosimeters who have never had a reported exposure greater than 10 mrem in a quarter. These efforts should not be complicated by a need to provide annual dose reports, particularly when 95% of the reports are minimal.
6.	NO COMMENT.
7.	NO COMMENT.
8.	NO COMMENT.
9.	**FRN Stated - *"The criterion of 1 mSv (100 mrem) was selected because it corresponds to the occupational dose threshold for requiring instruction to workers under 10 CFR 19.12."*** **CORAR Comment -** a. CORAR has previously recommended to the NRC that licenses should not be required to report occupational dose to workers when their annual dose is less than 10% of the applicable dose limits. b. If there is a substantive reason why a licensee should report lower doses to workers, this could be established as a license condition. c. Licensees who want to report lower doses to workers can do so. d. It is not clear why the NRC selected 1 mSv (100mrem) to be identical with the criterion for requiring instruction to workers under 10 CFR 19.12. We do not see any advantage in using the came criterion for notification and instruction. It would be helpful if the NRC explained the reason for selecting the same criterion for both requirements. e. The primary objection for using a lmSv (100mrem) criterion for notification is that it results in different requirements for a facility where individuals are monitored and for a facility where individuals are not monitored. The proposed rule provides a strong incentive for a licensee to cease monitoring workers who might exceed I mSv (100 mrem) in a year but are unlikely to exceed 10% of the applicable limits. In an ambient economic climate where licensee managements are continuously seeking ways to minimize costs to be competitive, the proposed rule will make it difficult for a Radiation Safety Officer to justify assigning dosimeters to confirm the low doses that most workers receive. This will make it more difficult to demonstrate compliance. f. CORAR recommends that both the reporting requirements and the monitoring requirement use the same dose criteria so as to not compromise programs for using dosimeters to confirm compliance.

	g. CORAR also prefers that criteria are based on a percentage of the applicable limits. This preserves the graded approach to controlling exposure that the NRC promotes in risk informed regulations. h. Finally, I mSv (100 mrem) per year is below the detection limit for TLD's that are used for dosimeter wear periods that are less than a month. Dose reports at this level would therefore be meaningless for extremity monitoring where TLD's are the preferred dosimeter and when short dosimeter wear periods are necessary.
9. (cont)	**FRN Stated - *"This approach is simpler because there is one reporting threshold instead of three and results in the same reduction in burden."*** **CORAR Comment -** a. Different licensees are likely to have different opinions on whether the proposed approach is simpler. Some believe that having the 10% criterion for both reporting and monitoring is a more logical and simpler approach than different criteria for the two requirements. b. CORAR's recommendation allows licensees to choose either criteria or some optimal intermediate administrative criteria that best relates to the licensee's conditions and practices. **FRN Stated - *"...(i.e., 10 mSv(1000rem)).*** **CORAR Comment -** The "1000 rem" should be "1000 mrem". **FRN Stated - *"NUREG-0713, Volume 26, indicates that raising the threshold from the proposed value of 1 mSv (100 mrem) would not significantly reduce administrative and information collection burdens on licensees."*** **CORAR Comment -** a. This may be generally correct for all licensees collectively but some licensees will expect a significant difference in burden. b. If CORAR's recommendation is accepted, those licensees who would not be affected by a different threshold would be able to select the NRC's proposed 100 mrem threshold if they wanted.
10.	Section 19.13(b)(1) needs to explicitly state that the criterion Is applicable to the whole body, to the lens of the eye, to the skin of the whole body and the skin of the extremities. The section should be written; (1) *the individual's occupational dose exceeds 1 mSv (100 mrem) TEDE or 1 mSv (100 mrem) to the lens of the eye, to the skin of the whole body, and to the skin of the extremities; or..."*

	In the Nuclear Regulatory Commission's proposed 10 CFR 19.13(b) (1), Committed Dose Equivalent for all organs is covered by the section, as it states "any organ or tissue'. In the discussion, the clear intent is that the proposed section be applied as above. The listed organs and tissues in the discussion receive readily monitored dose from external sources. 10 CFR Part 20 Appendix B, Table 1 "Occupational" states that the dose* equivalents for extremities (hands and forearms, feet and lower legs), skin, and lens of the eye are not considered in computing committed effective dose equivalent, but are subject to limits that must be met separately. The intent of the change needs to be explicit in the regulation. Dose to organs from internal sources are clearly considered to be addressed in the TEDE portion of the regulation, via summation of CEDE into TEDE and summation of CDE into CEDE, as they are not listed in the discussion as organs and tissues to be considered. Separate treatment of CDE is confirmed by the Regulatory Guide 8.34 and Regulatory Guide 8.7. Both guides exempt licensees from calculating CDE unless the CEDE is at least 1 Rem, yet the reporting criteria here is 0.100 Rem. Separate treatment of CDE is not justified, as application of 100 mrem limit to CDE would remove the benefit of the regulatory change. Organ dose is often substantially greater than the TEDE. For example, in the case of ICRP 68 Class F Uranium, a CEDE dose of 6 mrem implies a bone surface dose of 100mrem. Unless the intent of the regulatory change is made explicit in the change, many licensees will derive no benefit at all from the change. We strongly urge that the organs and the tissues to be considered be explicitly identified in the regulation as they have been in the discussion.
11.	The Association supports the change to the notification requirement in 10 CFR 19.13(b) so that licensees would be required to provide reports to occupationally exposed individuals whose annual dose exceeds 1 millisievert (mSv) (100 millirem (mrem)) TEDE or 1 mSv (100 mrem) to any individual organ or tissue in the preceding year for those individuals for whom monitoring was required under 10 CFR 20.1502, but not be required to provide unsolicited annual dose reports to those individuals for whom monitoring was required under 10 CFR 20.1502 whose annual dose does not exceed these limits. Individuals whose annual dose does not exceed these limits would still of course be provided with their dose reports upon request.
12.	AMRSO agrees with the concept that there is a defined dose threshold for formally reporting doses to radiation workers. However, we feel that it is much more logical to use 500 millirem as threshold. The NRC has rejected this argument on grounds that the number of additional individuals for whom annual reports would need to be prepared is small. This does not, however, address why reporting is required for an individual that had a better prospective evaluation been performed would not have required monitoring. It is common practice in the academic and medical radiation safety community to monitor individuals for whom monitoring is not required under §§20.1502. These monitored individuals while not likely to receive a total effective dose equivalent more that 500 millirem, may receive a total effective dose equivalent over 100 millirem. This creates a situation where two individuals can receive the same dose, but the licensee would only have to provide one individual with an annual report.

13.	AAPM/ASTRO supports the general need to change 10 CFR § 19.13(b)on providing annual reports to workers who are occupationally exposed. However, we recommend that the Commission consider a two-tiered revision: (1) 100 mrem for whole body and lens of the eye, and (2) 1,000 mrem for extremities/organ because there is a 10-fold difference in dose limits involved. This will not affect monitoring because this is determined by a percentage of the expected whole body limit, which is much lower. Medical/research workers most often receive their highest doses to extremities or lens of the eye although well within allowable regulatory and safety limits. This change would result in major administrative savings for this group and be consistent with the original recommended notification threshold.
14.	Kennecott Uranium Company supports the change to the notification requirement in 10 CFR 19.13(b) so that licensees would be required to provide reports to occupationally exposed individuals whose annual dose exceeds 1 millisievert (mSv) (100 millirem (mrem)) TEDE or 1 mSv (100 mrem) to any individual organ or tissue in the preceding year for those individuals for whom monitoring was required under 10 CFR 20.1502, but not be required to provide unsolicited annual dose reports to those individuals for whom monitoring was required under 10 CFR 20.1502 whose annual dose does not exceed these limits. Individuals whose annual dose does not exceed these limits would still of course be provided with their dose reports upon request.
15.	10 CFR 19.13 - Notifications and Reports to Individuals We support the proposed change to this section of the rule and provide the following specific comments to enhance clarity and implementation: 1. To improve clarity, we suggest that NRC specify in the supplementary information accompanying issuance of the final rule, that the criteria in 10CFR 19.13(b)(1) apply solely to dose received under the respective licensee's facility, and not to the total of all dose received over the year at other licensee facilities. We recognize that NRC provided such clarification in the supplementary information accompanying this proposed rule and simply ask that it be confirmed as part of the final rule. 2. We suggest that the second criterion in 10 CFR 19.13(b)(1) of "I mSv (100 mrem) to any individual organ or tissue" be revised to read "1 mSv (100 mrem) to the lens of the eye or to the skin of the whole body or extremities." In accordance with Regulatory Guides 8.7 and 8.34, the committed dose equivalent (i.e., dose to an organ) need not be calculated unless the committed effective dose equivalent exceeds 10 mSv (1000 mrem). The proposed reporting criterion could be taken to imply a requirement for making such a calculation and reporting it if the committed dose equivalent were expected to exceed 1 mSv (100 mrem), which is contrary to the regulatory guidance. 10 CFR 20.1201 - Occupational Dose Limits for Adults We support the proposed change to this section of the rule and have no specific comments. 10 CFR 20.2205 - Reports to Individuals of Exceeding Dose Limits

	We support the proposed change to this section of the rule and have no specific comments.

ACTUAL COMMENTS

DEFINITION OF TEDE	
Comment No.	**Response**
1.	I consider this definition to be quite reasonable and essentially noncontroversial.
2.	NO COMMENT.
3.	NO COMMENT.
4.	NO COMMENT.
5.	NO COMMENT.
6.	NO COMMENT.
7.	NO COMMENT.
8.	NO COMMENT.
9.	NO COMMENT.
10.	NO COMMENT.
11.	NO COMMENT.
12.	AMRSO supports the change to the definition of Total Effective Dose Equivalent; however we are concerned with the requirement that "the deep-dose equivalent must be used in place of the effective dose equivalent, unless the effective dose equivalent is determined by a dosimetry method approved by the NRC" in §§20.1201. We are concerned that there is no basis for the NRC to approve dosimetry methods. We recommend allowing the use of effective dose equivalent when the methodology is in accordance with a nationally recognized standard or when the methodology is in accordance with the radiation control agency with jurisdiction.
13.	The proposed rule commentary does not address how this change is consistent with the International Commission on Radiological Protection (ICRP) and the National Council on Radiation Protection and Measurements (NCRP) recommendations. The NRC needs to describe clearly what differences, if any, this

	proposed definition has compared to the latest recommendations of the NCRP in Reports 116 and 122 and of the ICRP. Current NRC approved methodology may be inconsistent with contemporary literature on combining collar and waist measurements for workers exposed to x-rays in the range used in Diagnostic Radiology who wear shielding garments.
14.	NO COMMENT.
15.	We support the proposed change to this section of the rule and have no specific comments on it. We suggest that NRC pursue changes to NRC Forms 4 and 5 and other related dose reports and provide options in regulatory guidance for reporting effective dose equivalent versus deep dose equivalent for external exposures and for making respective appropriate calculations of the total organ dose equivalent and total effective dose equivalent.

ACTUAL COMMENTS

LABELING CONTAINERS	
Comment No.	**Response**
1.	Unlike nuclear power plants which have very large health physics and legal staff, other license types likely did not respond to the proposed rule for these reasons. I disagree with the commissions' analysis which suggests that the exemption is not appropriate "due to the many types of radioactive material." Power reactors have vastly more types of radioactive material and a great range of activity because of the mixtures of fission and activation products. In contrast, university and medical areas typically have extremely pure and well defined materials which are typically used under very controlled conditions. The vast majority of these uses are employ extremely low quantities of material which frequently have extremely short half lives. I believe that a dichotomy in the rules for nuclear power plants and other licensees is unjustified.
2.	NO COMMENT.
3.	NO COMMENT.
4.	NO COMMENT.
5.	NO COMMENT.
6.	NO COMMENT.
7.	NO COMMENT.
8.	NO COMMENT.
9.	NO COMMENT.
10.	**NRC Proposed language -** 10 CFR 20.195(g) "Containers holding licensed material (other than sealed sources that are either specifically or generally licensed)at a facility licensed under parts 50 or 52 of this chapter, not including non-power reactors, that are within an area posted under the requirements in 20.1902 if the containers area:"

	BWXT Comment - The Nuclear Regulatory Commission states in the discussion "that it has determined that the exemption to labeling requirements under 10 CFR 20.1905 is not appropriate for materials licensees because of the many different types of radioactive material in containers at facilities such as hospitals and universities." However not all material licensees are the same. Many, particularly the SNM licensees, have less variation in radioactive materials types than do power production facilities. More appropriate wording would be: 10 CFR 20.195(g) to state "Containers holding licensed material (other than sealed sources that are either specifically or generally licensed) at a facility licensed under parts 50, 52, or 70 of this chapter, that are within an area posted under the requirements in 20.1902, if the containers are:" [Note: The proposed BWXT change is highlighted in "yellow."] A Part 70 licensee's variance in radiological hazards is less than that of a part 50 or 52 licensee. As can be seen from the attached table, Part 50, 52, and 70 production facilities have broadly consistent waste or contaminated material streams within their facilities. Universities and hospitals generate a wide variety of treatment or research wastes that are nearly pure and therefore the hazard types as well as the activity are quite variable. The composition of waste or contaminated material in these facilities is not necessarily consistent by location or in time and they should be excluded from this provision. In sharp contrast, in Part 70, 50 of 52 production facilities the composition of waste or contaminated material is consistent and limited as it is driven by the over riding purpose of the facility and work area, not by research or patient requirements. In this group, variation in hazard from container to container is least In Part 70 facilities. The over whelming hazard in a Part 70 facility is internal only, as is demonstrated in the attached table. In Part 50 and 52 facilities, external whole body exposure, external shallow dose exposures and internal exposures are all of importance. We conclude that the exemption is clearly valid for Part 50 and 52 facilities and is therefore valid for Part 70 facilities, which have less variability in stored material and a much smaller hazard set. (*See BWXT provided table at the end of this section.*)
11.	NO COMMENT.
12.	AMRSO is not affected by these changes; therefore, we have no comment.
13.	AAPM and ASTRO do not support this proposed change to 10 CFR Part 20 as currently presented in that it applies only to nuclear power plants. For example, an area of conceivable applicability is the management of low-level radioactive waste in large medical/university settings. The current exemptions in 10 CFR 20.1905 pertain to the labeling of specific container types with applicability to **ALL** licensees. It appears that the basis for limiting this exemption to nuclear power facilities **ONLY** is based on the justifications presented in 71 FR 55382, which demonstrate an incomplete understanding of the safety measures in large medical and research facilities and indicates a special regard for the nuclear power licensee. If an undue burden has been placed on the nuclear power industry because of an overly conservative interpretation of rule(s), the NRC should specifically be tasked to broaden that interpretation, not exempt a single licensee category from a rule applicable to all other licensees.

14.	NO COMMENT.
15.	<u>10 CFR 201905 - Exemptions to Labeling Requirements</u> We support the proposed change to this section of the rule and provide the following specific comments to enhance clarity and implementation: 1. We suggest that the exemption be expanded to include containers removed from a posted area so long as the container is under continuous direct or electronic surveillance while in transit between one posted area to another. This is analogous to the provision in 10 CFR 20.1601 (b) for controlling access to high radiation areas. 2. All Part 70 licensees now have this provision in their licenses. However, it is granted by license exemption, a procedure that should be changed by incorporating Part 70 licensees into this exemption in the final rule. The NRC states in the discussion *"that it has determined that the exemption to labeling requirements* under *10 CFR 20. 1905 is not appropriate for materials licensees because of the many different types of radioactive material in ontainers at facilities such as hospitals and universities."* Part 70 licensee's variance in radiological hazards is comparable to that of a Part 50 or 52 licensee. Part 50, 52, and 70 production facilities have broadly consistent waste or contaminated material streams within their facilities. We suggest wording for this proposed change as follows: *"(g) Containers holding licensed material (other than sealed sources that are either specifically or generally licensed) at a facility licensed under Part 50, 52, or 70 of this chapter, that are within an area posted under the requirements in 20.1902, if the containers are:* *(1) conspicuously marked (such as by providing a system of color coding containers) commensurate with the radiological hazard;* (2) accessible only to individuals who have sufficient instructions to minimize radiation exposure while handling or working in the vicinity of the container; and (3) subject to plant procedures to ensure they are appropriately labeled, as specified in 20.1904 before being removed from the posted area."

BWXT - Stored Material and Hazard Type Vs Licensee Type[5]

Licensee Type →	Part 50 or 52[3]	Hospital Complex[4]	Research University[4]	Part 70 SNM[3]	Hazard External Shallow	Hazard External Whole Body	Hazard Internal
Stored material ↓↓↓↓↓↓↓↓↓↓↓	----------	----------	----------	----------	----------	----------	----------
Pure tritium Weak pure beta emitters (C14, S35, Ca45, Tc99)	limited limited	Limited/no X medical treatment	X research X research	no limited trace[2]	Very limited X	na na	X X
Pure strong beta emitters (P32 or Sr90 for example)	Limited–fission product Sr90	X medical treatments research	X research	limited trace[2]	X	limited	X
Concentrated radioiodine or other volatile isotopes	Limited-normally trace restricted in time	X medical treatments research	X research	no	X	X	X
Short lived accelerator produced radionulcides	no	X medical treatments and activation products	X medical treatments and activation product s	no	X	X	X
Pure photon emitters ($Tc99^m$, Fe55,Cr51)	X	X	X	no	X[5]	X[5]	X[5]
Beta-gamma emiters	X	X	X	Limited (uranium daughter s)[2]	X[5]	X[5]	X[5]
SNM	limited	no	limited	X	limited	limited	X[5]
Total categories	2 of 8	6 of 8	7 of 8	1 of 8			
Totals limited	4 of 8	1 of 8	1 of 8	3 of 8			

1. Possible concentrated in heavy water source to aid startup and certain presence as a trace constituent In a nuclear power facility.
2. Uranium *et al* can bear traces of constituents from fuel reprocessing.
3. Waste types in facility predominantly similar, limited possibility for radiological compositions significantly variant from the normal. Activity levels can vary greatly.
4. Waste types in facility can be pure or nearly pure, likely to vary in lime and place with medical treatment or research. Waste from drum to drum
   may or may not be similar. Hazard types can vary considerable from drum to drum *et al*. Activity levels can vary greatly.
5. Hazards bolded and underlined are major hazards of Part 50 and 52 facilities. Note the contrast with the single major hazard of the Part 70 facilities (in shadow).

ACTUAL COMMENTS

CUMULATIVE OCCUPATIONAL DOSE	
Comment No.	**Response**
1.	I find this proposal to be completely logical. Up to this point, licensees have been subsidizing future possible epidemiological studies. The only reason this requirement has been maintained is inertia. The existing rule has forced licensees to depend upon the actions of other institutions. Also employees now regard question about their past, particularly the need to determine previous names, as potentially risky due to concerns about identity theft. The costs savings to medical and university licensees are quite significant die *[sic]* to the large number of employees involved.
2.	The cost savings from the proposed change are under-reported. You have consider the savings to the facility that has previously been required to request a new employee's exposure history from their previous employers. You have neglected to include the cost savings that will be realized by the facilities from whom those records are being requested. Prior employers will no longer have to expend time and effort to research their records and respond to the new employer's request. If the employee moves to another job, this process is repeated. If the new employee has worked at an average (my guess) of two previous radiological companies and the average cost is $10.00 per company ($20.00 total) to research and respond to a request, then an additional savings of $44 million to the industry will result.
3.	NO COMMENT.
4.	NO COMMENT.
5.	This proposal should have been implemented ten years ago. The purpose requesting previous exposures goes back to the cumulative dose limit of 5 rem times (age -18). This limit also allowed for an annual exposure of 12 rem per year (as I recall). When the annual limit was changed to 5 rem, the need for previous years exposure evaporated. The rest of the regulated community should not be punished for the exceptionally rare planned special exposure. I believe the cost savings listed in the proposed change are under estimated. The cost to the institutions providing the documentation must also be factored into the equation.
6.	NO COMMENT.
7.	NO COMMENT.
8.	After reviewing the proposed rule changes relative to Section 20.2104 - Determination of Prior Occupational Dose, I have a concern regarding this proposed rule change. I completely understand the reason for not attempting to obtain the records of cumulative doses for previous years, but

	current year dose records are essential for the licensee to obtain. The Industrial Radiography business traditionally has experienced a "transient work force" where as several times during the year, radiographers are hired by a company and may have worked for one or more company's during the current year and received radiation doses. I believe the proposed rule change should be very clear that ... Prior Dose Records for the Current Year Must Be Obtained before permitting an individual to have access to a radiation area. Example: Radiation Worker is employed by company X from January through June. The employee terminates and begins working for company Z in August. The individual received a dose of 0.03 Sv (3 rems) from company X and 0.03 Sv (3 rems) from company Z. Company Z without determining prior dose for the current year receives the violation and/or fine for permitting an individual to receive in excess of the annual dose limit of 0.05 Sv (5 rems).
9.	**FRN Stated - *"The fourth proposed amendment would remove the provision in 10 CFR 20. 2104 (a)(2) that requires licensees to attempt to obtain the records of cumulative occupational radiation dose for each worker requiring monitoring under 10 CFR 20. 1502."*** **CORAR Comment -** CORAR agrees that this requirement is redundant for most licensees who never need to have planned exposures exceeding annual limits.
10.	NO COMMENT.
11.	The Association also supports the fourth proposed amendment to remove the provision in 10 CFR 20.2104(a)(2) that requires licensees to attempt to obtain the records of cumulative occupational radiation dose for each worker requiring monitoring under 10 CFR 20.1502. This has been a burdensome requirement that was difficult to fulfill. The reduced occupational dose limit of 0.05 Sv (5 rems) per year in the current 10 CFR 20.1201(a)(1)(i) essentially accomplishes the same goal as the previous dose limit of 0.03 Sv (3 rems) per calendar quarter constrained by the then age-dependent, cumulative lifetime dose limit. In addition, in the uranium recovery industry, doses have historically been very low and maintenance of cumulative dose records for workers as they move from employer to employer is not required.
12.	The AMRSO supports these changes. Since lifetime cumulative radiation exposures are no longer regulated, this information is not significant. We recommend an additional change to §§19.13: remove "the individual's social security number" from paragraph (a). The need for social security number is important when checking an individual's radiation exposure history as it uniquely identifies an individual and generally does not change over time. Having eliminated the need to create and report these exposure histories, likewise reduces the importance of collecting and maintaining the individual's social security number. Further, this has the very real risk of identity theft which would be much more detrimental to an individual's well-being than the possibility

	of providing the individual with a wrong dosimetry report.
13.	AAPM and ASTRO agrees that the proposed change to 10 CFR §20.2104 will reduce the burden to all NRC licensees. However, we note the following potential consequences of the change: a) eliminate lifetime dose records and the ability to do any retrospective, low dose, occupational risk assessments. b) create in the future a larger burden, or at best, will fail to reduce the burden on licensees. If the NRC should implement currently suggested ICRP dose limits, which recommend dose limits averaged over several years, licensees will be forced to recreate previous dose histories for its workers.
14.	Kennecott Uranium Company also supports the fourth proposed amendment to remove the provision in 10 CFR 20.2104(a)(2) that requires licensees to attempt to obtain the records of cumulative occupational radiation dose for each worker requiring monitoring under 10 CFR 20.1502. This has been a burdensome requirement that was difficult to fulfill. The reduced occupational dose limit of 0.0.5 Sv (5 rems) per year in the current 10 CFR 20.1201(a)(1)(i) essentially accomplishes the same goal as the previous dose limit of 0.03 Sv (3 rems) per calendar quarter constrained by the then age dependent, cumulative lifetime dose limit.
15.	<u>10 CFR 20.2104 - Determination of Prior Occupational Dose</u> We support the proposed change to this section of the rule and have no specific comments.