

Timeline of Efforts to Let Nuclear Waste Get OUT OF CONTROL

1962-1986 Atomic Energy Commission/ERDA/DOE at Paducah, Ky
*Smelter and machine shop recovered “large quantities of steel, nickel, aluminum, copper, monel, cobalt, gold and silver” from nuclear weapons, research reactors and other classified sources. Some of this was sold into commerce including radioactively contaminated gold and aluminum.*¹

1970 US Environmental Protection Agency Created by Congress and
*directed to protect the public from radiation*²

1974 Atomic Energy Commission *Regulatory Guide 1.86 GUIDANCE*
(not regulation) on terminating nuclear reactor operating licenses to possession-only or unrestricted release, setting allowable contamination levels for some categories of radionuclides remaining on building surfaces; Has been subsequently misused by DOE and NRC to release radioactively contaminated materials into commerce and regular landfills.

1980 NRC *Draft Environmental Statement, part of proposed rulemaking to allow recycling radioactive metals in commercial recycling facilities, specifically smelted alloys containing residual technetium-99 and low-enriched uranium (NUREG-0518, October 1980.) Opposition stopped the official approval but DOE has let some materials out according to reports and knowledge in the streets especially around uranium enrichment facilities.*

1981 A Wall Street Journal article documents public opposition to the government proposal to recycle radioactive metal and includes a “satiric ad” for a ‘Fabulous 8-Piece Cookware Set that is Krypton clad– Now Every Household Can Be A Nuclear Family.’

¹ “DOE Issues Two Reports on Cold War Era Activities at the Paducah Site,” DOE Press Release December 21, 2000, contact Steven L. Wyatt, www.oakridge.doe.gov. 865-576-0885

² “Under the terms of Reorganization Plan No.3 (July 9, 1970), the following would be moved to the new Environmental Protection Agency: ... Certain functions respecting radiation criteria and standards now vested in the Atomic Energy Commission and the Federal Radiation Council [including] establishing generally applicable environmental standards for the protection of the general environment from radioactive material. As used herein, standards mean limits on radiation exposures or levels, or concentrations or quantities of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material...[and A]ll functions of the Federal Radiation Council (42 U.S.C., 2021 (h)).”

1985 NRC publishes NUREG-1444, the Site Decommissioning Management Plan, reportedly incorporating the levels from the AEC's 1974 Regulatory Guide 1.86 into cleanup for specific sites.

1986 NRC adopts the initial Below Regulatory Concern (BRC) Policy. If implemented, would have allowed some nuclear wastes to be treated as not radioactive. EPA estimated that 30 to 40% of the commercial "low-level" radioactive in the country would have been exempted from regulatory control, primarily from nuclear power.

1986 -- 1992 15 states: ME, VT, CT, OH, WI, PA, WV, IA, MN, OR, TX, NM, IL, SD, CO - passed laws or regulations that were stricter than federal, most requiring continued regulatory control over radioactive wastes and materials even if the federal government or other states exempted them from regulatory control. Three states passed similar resolutions in at least one of the state legislative bodies (OK, GA, VA).

1988 DOE adopts internal Order 5820.2A 'Radioactive Waste Management,' stating that DOE will use federal the BRC policy and incorporating the basic performance objectives of the Nuclear Regulatory Commission's so-called "low-level" radioactive waste disposal rule promulgated at 10 CFR 61.

1988 IAEA Safety Series 89: Principles for the Exemption of Radiation Sources and Practices from Regulatory Control; international nuclear promoters weigh in to help alleviate decommissioning costs internationally.

1989 RESRAD computer code issued by Argonne National Labs—funded by DOE to predict doses from RESidual RADioactivity; developed to implement DOE's internal Order 5400.5 release of radioactivity and NRC's decommissioning rule.

1990 NRC adopted its final, expanded Below Regulatory Concern (**BRC**) policy. In addition to some radioactive wastes some radioactive materials, emissions and practices would also be treated as not radioactive.

1990 DOE quietly adopted Internal Order 5400.5 including Chapters 2 and 4 allowing radioactively contaminated materials to be released or cleared from DOE control at levels (100 millirems per year; up to 500 millirems a

year on a temporary basis) far exceeding those in the NRC BRC policies. Release or “clearance” of items with residual radioactivity allowed including shipment of radioactive waste to landfills and incinerators, as well as release of materials and properties for reuse and recycle.

1991 US House and Senate *incorporate provisions to revoke the NRC BRC policies in pending legislation.*

1991 Public Citizen, et al v. NRC *challenges fact that NRC did not do formal rulemaking process to promulgate its final BRC policies. When Congress revoked the policies in 1992, the case ended without court ruling.*

1991 NRC *initiates a “consensus-building” process and invites environmental and public interest groups to participate on the condition that they not participate in legislative activity or litigation during the term of the process. All groups working on the BRC issue decline the invitation.*

1992 Congress *revokes both of the Nuclear Regulatory Commission’s 1986 and 1990 Below Regulatory Concern (BRC) Policies to deregulate some radioactive waste, materials, emissions and practices, and reaffirms state authority to be more protective, in the Energy Policy Act of 1992.*

1992 NRC *initiates the Enhanced Rulemaking on Residual Radioactivity (ERORR) to set new decommissioning site release standards. NRC tries to shift the question of ‘how much contamination can we deregulate (BRC)?’ to ‘how clean is clean?’ or ‘how dirty can we leave contaminated sites?;’ NRC provides a plush public and “stakeholder” participation process – all members of the public call for standards that require continued regulatory control over sites that would expose the public to additional radioactivity over and above natural background levels.*

1992 NRC *Begins strengthened effort to “develop” a technical basis” for deregulating nuclear waste. Eventually expands promotional efforts to include staff in at least 4 divisions of the NRC and hires contractor SAIC to develop NUREG-1640 to justify deregulating metal and concrete. (Note SAIC is also hired to for large DOE Oak Ridge cleanup contract simultaneously.) NRC also seeks support from international nuclear advocacy organizations such as IAEA, European Atomic Energy Agency (EURATOM) and OECD NEA to sway American opposition or later to force “harmonization.” Like NRC, the international allies are committed to the*

promotion of nuclear power and technology not public protection from radiation—in fact NRC staff and commissioners are active and highly influential in many of them. They actively participate in developing international policies exempting nuclear waste from regulatory control and allowing it into normal recycling streams and daily use items. These international recommendations are now being used as an additional excuse by the NRC into adopting policies that allow deregulation and dispersal of nuclear waste into the public sector and the environment.

1992 DOE caught by investigative journalist, sending mixed radioactive and hazardous waste to incinerators and cement kilns approved for burning hazardous waste only. DOE institutes a temporary ban on the practice.

1995 DOE Headquarters Air, Water and Radiation Division issues letter to Field Offices and Elements outlining how to release property and materials that are volumetrically contaminated with radioactivity...³ identifying up to 25 millirems per year per release as acceptable doses (pg 2). If doses are less than a millirem per year, DOE field office managers can approve the release; if more than a millirem, head of Office of Environment, Safety and Health—restructured in 2006 to Office of Health, Safety and Security must approve (was EH-1 now HS-1).

Mid 1990's EPA signed on as technical contractor for DOE for analysis of radioactive metal recycling, to project doses to public and locations where metal processing would occur. Produced 1997 draft and 2001 final Technical Support Documents and Cost-Benefit Analysis on Potential Recycling of Scrap Metal from Nuclear Facilities.⁴

1996 European Commission adopts European Council Directive 96/29/Euratom, the so-called "Basic Safety Standards Directive" (OJ L159 29th June 1996) including provisions for radioactive clearance against public opposition. Some members did not adopt the exemptions. Public and government concern led to formation of independent radiation group,

³ Application of DOE 5400.5 requirements for release and control of property; November 17, 1995. Department of Energy Memo from Air, Water and Radiation Division: EH-412: Wallo:2025864996.

⁴ Anigstein, R, WC Thurber, JJ Mauro, SF Marschke and UH Behling, S. Cohen and Associates, Technical Support Document, Potential Recycling of Scrap Metal from Nuclear Facilities, Volumes 1-3. Prepared for US EPA Office of Radiation and Indoor Air, Deborah Kopsick September 2001, under contract 1-W-2603-LTNX; Radiation Protection Standards for Scrap Metal: Preliminary cost-Benefit Analysis prepared for Radiation Protection Division ORIA, EPA under contract numbers 68-D4-0102 and 0155, June 1997. Accessible at www.epa.cleanmetals.

European Committee on Radiation Risk (ECRR). In 2007, the 50th anniversary of EURATOM, there is growing opposition throughout Europe to the power of EURATOM to direct pronuclear policy for member states.

1996-1998 EPA Considered, published for public comment and rejected making a rule legalizing recycling of radioactive metals; decided to focus on capture of sealed sources instead. It was ironically called “clean metals.”

1996 DOE “Closing the Circle on the Atom” published, reflecting the shift during the Clinton administration supporting the end of nuclear weapons production and commitment to characterizing the problems, wastes and other legacies and committing resources to clean-up.” Linking Legacies” further documenting the clean-up challenge was published in 1997, further documenting this work.

1997 NRC publishes its License Termination Rule for decommissioning (10 CFR 20.1401-20.1406 Subpart E—Radiological Criteria for License Termination), with total disregard for the public consensus calling for complete clean-up before release of contaminated sites for unrestricted use. Despite the public consensus, documented in the 1992 ERORR process, officially designed to inform this decommissioning rule, NRC allows the “average member of the critical group” to be exposed to 25 millirems per year (TEDE) from unrestricted release of sites (or portions of sites 10 CFR 50.83) and to 100 – 500 millirems per year (TEDE) from restricted released sites (or portions of sites).

1997 DOE entered a \$278 million “fixed price contract with BNFL and SAIC and others to gut 3 enormous uranium enrichment buildings at Oak Ridge K-25 site, including the sale and commercial recycling of radioactively contaminated metals. Move meets with opposition from metal industry, public, environmental organizations.

1997 DOE

Oil, Chemical & Atomic Workers [became PACE Paper, Allied – Industrial, Chemical, and Energy Workers International], AFL-CIO, Natural Resources Defense Council, Nuclear Information and Resource Service, Oak Ridge Environmental Peace Alliance sue DOE, British Nuclear Fuels, Limited and SAIC et al for violating the National Environmental Policy Act in the Oak

Ridge K-25 contract that would release radioactive metal into commercial recycling and consumer goods.

1998 NRC Commission issues SECY-98-028, Staff Requirements Memo, Regulatory Options for Setting Standards on Clearance of Materials and Equipment Having Residual Radioactivity, dubbed the “Smoking Gun” since it directs that NRC staff should “focus on the codified clearance levels above background for unrestricted use...based on scenarios of health effects from low doses that still allows quantities of materials to be released. The rule should be comprehensive and apply to all metals, equipment, and materials, including soil...” thus revealing NRC’s ongoing commitment to expanded deregulation of radioactivity.

1999 NRC announces scoping for Release of Solid (radioactive) Materials at Licensed Facilities 64FR125 June 30, 1999; public meetings boycotted by public interest and environmental groups because option of preventing release at all was not seriously considered.

1999 Health Physics Society and American National Standards Institute without public input, develop proposed clearance levels for volumetric contamination. Later the National Academy of Sciences panel review criticizes the methods as not reproducible.

1999 IAEA adopts TSR-1 transport regulations that adjust exempt levels for transport to coincide with chosen levels to deregulate decommissioned nuclear facilities in Europe. Although the world is already unified on a preexisting exempt amount for transport, this new standard is adopted precisely to overcome the need to label and track levels (mostly higher than before) that IAEA wants to exempt to save money for the decommissioning nuclear industries. Also creates new exemptions and justifies it all by calling for international “harmonization.” Once UN transport agencies adopt it, member nations must and do. US goes final in 2004, sued by critics.

1999 DOE

Federal District Court Judge Kessler, in OCAW et al. v. Pena, et al. 62 F.Supp. 2d 1 (D.D.C. 1999) confirmed that DOE awarded its quarter billion dollar recycling contract to BNFL without regard for the basic requirements of environmental law and openness and found that the concerns raised by the union and environmental groups were valid.(1 Footnote: Statement of Dan Guttman to National Academies National Research Council,

Committee on Alternatives for Controlling the Release of Solid Materials from Nuclear Regulatory Commission - Licensed Facilities, March 27, 2001) She stated that "The potential for environmental harm is great, especially given the unprecedented amount of hazardous materials which [DOE and BNFL] seek to release."

2000-2003 NRC and DOT propose adoption of new transport regulations that exempt various levels of all radionuclides from regulatory control in transport, increasing the exempt amounts and initiating new exemptions never allowed before. Regulations being weakened under the guise of "harmonization" between the federal and international agencies.

2000 DOE put a moratorium on releasing volumetrically contaminated radioactive metal (January) and suspended the release of any metal from DOE radiological areas into commercial public recycling (July); began rulemaking to make the moratorium and suspension permanent in DOE Order 5400.5. In October "Control of Releases of Materials with Residual Radioactive Contamination from DOE Facilities" was published for comment.

2001 EPA adopted mixed waste rule that allows mixed radioactive/hazardous waste to be considered radioactive only, exempt from RCRA hazardous waste requirements for storage, treatment, disposal and transport; Specifically EPA adopted subpart N to 40 CFR part 266 "Conditional Exemption for Low-Level Mixed Waste Storage, Treatment, Transportation and Disposal" (66 FR 27218, May 16, 2001).

2001 DOE announces a halt to the proposed changes in its Order 5400.5 on contaminated material and metals and begins a Programmatic Environmental Impact Statement on Disposition of Scrap Metals (FR66 July 12, 2001 No 134) holds scoping meetings and opens public comment period. Denies public access to comments received. As of April 2007, DOE is reporting that the PEIS is "on hold." SAIC was again hired by DOE at one point to carry out the PEIS but dropped due to repeated conflict-of-interest.

2001 DOE covertly circulates within its Field Management Council a memo that outlines ways for DOE site personnel to circumvent DOE's own

ban on the release and recycle of contaminated metal; a draft of the internal memo is obtained by metal industry and environmental community; strength of opposition causes item to be removed from an FMC meeting agenda.

2001-2002 National Academy of Sciences (NAS) hired by Nuclear Regulatory Commission to provide technical legitimacy for radioactive deregulation; **The Disposition Dilemma: Controlling the Release of Solid Materials from NRC-Licensed Facilities** (National Academy Press 2002) is produced recommending NRC deal more effectively with the public and public concerns.

2003 NRC announces new rulemaking on *Controlling the Disposition of Solid Materials: Scoping Process for Environmental Issues and Notice of Workshop* (68 FR 40 February 28, 2003). Public comments taken on Scoping for new rule to deregulate radioactive waste and materials, projected for issuance in 2004.

2003 EPA published Advance Notice of Proposed Rulemaking on “Approaches to an Integrated Framework for Management and Disposal of ‘Low-Activity’ Radioactive Waste” (65120 Federal Register/Vol. 68, No. 222 / Tues, November 18, 2003) potentially allowing radioactive waste to be considered non-radioactive and considers a “nonregulatory approach” to management of radioactive waste. Still pending.

2004 Department of Transportation (DOT) and NRC adopt proposed TSR-1 “harmonized” and weakened transport regulations.

2004 Nuclear Information and Resource Service, Public Citizen, Committee to Bridge the Gap, Redwood Alliance and Sierra Club sue DOT and NRC to stop increased exemption levels in transport. Rule defines higher levels of radioactivity that need not be labeled during transport. Since many solid waste facilities had used DOT levels as their cutoff to accept radioactively contaminated wastes, higher amounts of radioactivity could be getting into non-nuclear waste facilities, illegally, as a result of the change. In 2006 both cases end due to technicalities without review of merit of content.

2005 NRC announces decision to defer further action (for possibly 2 years) on *Controlling the Disposition of Solid Materials* rulemaking and to proceed

with case-by-case exemptions under its alternative disposal provision 10 CFR 20.2002 and through technical specifications in licenses.

*2006 DOE proposal appearing to weaken the definition of “contaminated area” (radiological area) by allowing DOE Order 5400.5 authorization limits to be codified into 10 CFR 835; **Federal Register** / Vol. 71, No. 154 / Thursday, August 10, 2006 / Proposed Rules).*

2006 NRC sues SAIC over Conflict of Interest. SAIC was hired to develop NUREG 1640 to make it appear that radiation doses can be known and limited, giving the misimpression that there is a technical basis justifying deregulating nuclear waste. It was later revealed that the contractor (SAIC) that set up NRC’s technical justification for allowing radioactive metal and concrete to be released into general recycling to make any everyday household items like frying pans, toys, tableware, zippers, jewelry, hip-replacement joints, cars, furniture, buildings, roads, was actually part of the team hired by Dept of Energy to ‘recycle’ nuclear waste from the Oak Ridge K 25 site, the largest radioactive recycling project known. SAIC was fired by NRC due to the Conflict of Interest but the conflicted work product is still in use today. Later NRC sued SAIC for not revealing the conflict of interest.

2007 DOE Seeks Expressions of Interest from industry on restricted recycling of 15,300 tons of nickel scrap recovered from uranium enrichment process equipment and stored at Oak Ridge, TN, and Paducah, KY. Companies are being asked to propose declassifying the nickel, cleaning it and fabricating it into forms that will have restricted use under DOE, NRC or DOD Navy radiation control.

Early 1990s until present NRC and DOE continue to expend resources to push BRC policies under other names (See list of deregulation terms.)

2007 DOE, DOD, NRC and EPA MARSAME Multi-Agency Radiological Survey and Assessment of Materials and Equipment Manual is open for public comment before finalization. Provides the direction on the procedures and equipment that make releasing radioactive soil, equipment and materials “acceptable” to all 4 federal entities.