

DRAFT MATERIALS LICENSE – Amendment 42

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and the applicable parts of Title 10, Code of Federal Regulations, Chapter I, Parts 19, 20, 30, 31, 32, 33, 34, 35, 36, 39, 40, 51, 70, and 71, and in reliance on statements and representations heretofore made by the licensee, a licensee is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

	Licensee			
1.	Water Remediation Technology LLC		3.	License Number SUC-1591
2.	9500 W. 49th Avenue, Suite D-100525 W. 56th Avenue, Suite 100 Wheat Ridge, CO 80033 Arvada, CO 80002		4.	Expiration Date January 25, 2017
			5.	Docket or Reference Number 40-9059
6.	Byproduct, Source, and/or Special Nuclear Material:	7.	Chemical and/or Physical Form:	8.
	Source	Any		

9. The Water Remediation Technology LLC (WRT) uranium water treatment program, including operation of its uranium removal system, media exchanges, and final disposition pathways, shall operate as specified in its ~~December 21, 2016 transmittal letter and enclosed document~~ entitled “Source Material License SUC-1591, Environmental Report in Support of a Multi-Site, Performance-Based License Renewal Application” (hence, ~~the WRT~~ Environmental Report) also dated ~~September 27~~ December 21, 200516, as amended by ~~WRT Responses to NRC Requests for Additional Information, dated November 17, 2017~~, except where superseded by licensed conditions contained in this specific license or as otherwise approved in writing by the NRC. Whenever the words “will” or “shall” are used in the above referenced documents, it shall denote a requirement. As used herein, the term “Client” shall mean a person or entity that WRT has entered into a contract with to provide uranium removal services. The term “Client” is further defined to include all employees, agents and contractors of the person or entity that WRT has entered into a contract with to provide uranium removal services.

~~49-10.~~ WRT shall establish the Safety and Environmental Review Panel (SERP) in accordance with the commitments in Section 3.14.2 of the Environmental Report. The ~~Safety and Environmental Review Panel~~SERP shall consist of a minimum of three individuals employed or appointed by WRT and a WRT employee shall be designated the ~~Safety and Environmental Review Panel~~SERP Chairperson. One member of the ~~Safety and Environmental Review Panel~~SERP shall have expertise in management and be responsible for managerial and financial approval changes; one member shall have expertise in operations and/or construction and shall have responsibility for implementing any operational changes; and one member shall be the Corporate Radiation Safety Officer (see license condition 15) with the responsibility of ensuring that changes conform to radiological safety and environmental requirements. WRT may include additional members on the ~~Safety and Environmental Review Panel~~SERP as necessary to address health physics or other technical disciplines and legal/regulatory issues. Temporary members or permanent members other than the three identified above may be consultants. ~~44.~~Any corporate organizational changes affecting the assignments or reporting responsibilities described in the Environmental Report or in any other WRT licensing documents shall be reviewed and documented by the ~~WRT Safety and Environmental Review Panel~~SERP and made available to the NRC.

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- ~~20-11. WRT will be permitted to register and implement install new uranium removal systems at Community Water Systems at Client's facilities that will operate within the scope of the performance requirements delineated in Section 2.3 of the Environmental Report and meet the terms and conditions of this specific license. WRT must register, keep track the status of, and inform the NRC of all community water system Client's facilities it enters into service contracts with, so that the number of such community water system Client facilities, uranium removal systems, and their locations can be readily determined at any given time, including those operating under a general license pursuant to 10 CFR 40.22 and those operating under this specific license. Notification to the NRC shall be made by the last day of the month for any uranium removal system that becomes operational in the preceding month. Notification must contain the name and location of the community water system Client's facility where the uranium removal system has become operational and contain a facility description summary and relevant features summary similar to Appendix A.3.4 and A.3.5 of NUREG-1757, Vol. 3, Rev.- 1. The WRT Safety and Environmental Review Panel SERP will review community water system the Client's requirements and document the conclusion that such requirements are within the performance requirements set forth in the Environmental Report and meet the terms and conditions of this specific license. Such documentation shall be subject to NRC inspection. Community water systems and uranium removal systems operation under a general license pursuant to 10 CFR 40.22 WRT will not be required to provide financial assurance as required by applicable NRC regulations and license condition 33 of outlined in this specific license for uranium removal systems operating at Client's facilities under a general license pursuant to 10 CFR 40.22 and will not be subject to on-site NRC inspection.~~
12. Any uranium removal system installed by WRT under this specific license must be installed in either (1) a building or structure that existed prior to the initiation of discussions between WRT and the Client regarding the need for a uranium removal system, or (2) a building or structure to be constructed by the Client in a previously cleared area located within a Client's facility or site, provided that the Client cleared the area prior to the initiation of discussions between WRT and the Client regarding the need for a uranium removal system. A facility or site where a uranium removal system is to be installed must also be accessible to a public street, road or highway and to the extent that WRT relies upon a private road to either install or service the uranium removal system, such private road must have been constructed prior to the initiation of discussions between WRT and the Client regarding the need for a uranium removal system or such private road must be constructed by the Client for a primary purpose other than installation and operation of a uranium removal system. Approval by the NRC of a license amendment to this specific license shall be a condition precedent for the installation of a uranium removal system at any Client's facility or site that does not meet the criteria of this license condition.

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~~10.13. WRT shall contractually possess the uranium source material contained within the uranium removal system, including the ion exchange vessels. WRT may lease space from the community water system to house the uranium removal system. If a uranium removal system is sold or otherwise transferred to the community water system by WRT for all uranium removal systems that WRT is required by license condition 11 to register, WRT, prior to installation of the uranium removal system, shall execute a contract with the community water system Client that will require WRT to take title to the uranium source material as such source material is loaded onto the treatment media within the uranium removal system. WRT shall ensure that the contract shall include the following terms and conditions: to lease the uranium removal system to retain possession of the source material. If the uranium removal system is not leased back to WRT the community water system will be required to obtain an NRC specific license or comply with another future regulatory option, such as a general license, promulgated or endorsed by the NRC.~~

- (1) That at all times, the treatment media is and shall remain the property of WRT and that WRT will take title to the uranium source material as it is loaded onto the treatment media;
- (2) WRT shall monitor the installation of the uranium removal system by the Client, and WRT shall be responsible for the initial activation of the uranium removal system to ensure its proper operation;
- (3) That WRT shall be afforded access to the uranium removal system at all times;
- (4) That the uranium removal system is contained within a secured site that complies with security requirements issued by the NRC;
- (5) During operation of the uranium removal system, WRT shall be responsible for all service activities that have the potential for contact with the licensed material; and
- (6) WRT shall be responsible for all treatment media exchanges, including the removal of the final charge of spent treatment media and final disposition at an appropriately licensed facility at the termination of the operation of the uranium removal system (any unloaded treatment media may continue to be used by WRT at other sites).

~~11. WRT will consult with State and/or local historic preservation officers or similar governing body before beginning construction related to, or the use of, a uranium removal system that is located outside of, or away from, existing community water system structures.~~

~~12.14. If a possible direct outlet to storm sewers, sanitary sewers, or drain field exists at the community water system Client's facility where the uranium removal system will be operated, the uranium removal system will be designed with a secondary containment system to protect against a release of any treatment media containing source material that could affect water resources. The uranium removal system shall not be located on the 100-year flood plain unless approved by the WRT Safety and Environmental Review Panel SERP and the NRC determines that the reasonably foreseeable impacts of any floods upon an installed uranium removal system, including any uranium-laden treatment media, can be appropriately mitigated through application of best management practices and other prudent measures.~~

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- ~~13. WRT will consult with Federal or State fish and wildlife agencies to identify potential endangered or threatened species before beginning construction related to, or the use of, a uranium removal system that is located outside of, or away from, existing community water system structures.~~
15. The WRT Corporate Radiation Safety Officer shall possess the professional qualifications and shall satisfy the professional training requirements ~~outlined~~ set forth in Sections 3.16.11 and 3.16.2.1 of the Environmental Report and Appendix D of NUREG-1556, Vol. 18 before engaging in any corporate radiation safety officer activities.
- ~~16. The WRT field radiation safety officer and radiation control technicians shall, at a minimum, possess the professional qualifications and shall satisfy the professional training requirements for health physics technicians described in NRC Regulatory Guide 8.31 or for authorized users in Appendix D of NUREG-1556, Vol. 18 before engaging in any licensed activities.~~
- ~~16-17. The WRT system specialists shall possess the professional qualifications and shall satisfy the professional training requirements outlined~~ set forth in Sections 3.16.1.3 and 3.16.2.2 of the Environmental Report before engaging in any licensed activities.
- ~~17-18. WRT will ensure that local utility~~ WRT Clients' managers and operators satisfy appropriate basic training requirements ~~outlined~~ set forth in Section 3.16.2.3 of the Environmental Report before initiating licensed activities.
- ~~23-19. Standard operating procedures shall be developed and followed for all licensed activities, including the handling of licensed materials during normal accident situations. A copy of the current standard operating procedures shall be kept in the area(s) of the uranium removal system where they are utilized. The Safety and Environmental Review Panel~~ SERP will review and approve all standard operating procedures before they are implemented.
- ~~24-20. WRT will implement its radiation safety program as described in Section 3.13~~ 16 of its Environmental Report. All training sessions and materials shall conform to the ~~requirements~~ commitments in Section 3.16 of the Environmental Report and ~~the WRT performance~~ requirements in license conditions 15 through 18. Any alterations to the radiation safety program ~~outside~~ that are not within the scope of the WRT ~~performance requirements~~ aforementioned commitments and license condition requirements ~~or that fail to meet a condition for action by the Safety and Environmental Review Panel~~ shall require NRC approval by license amendment.
- ~~25-21. WRT will ensure that all uranium removal system equipment is installed properly before the commencement of licensed activities. After the commencement of licensed activities, WRT will ensure that no alterations are made to components of the uranium removal system that contain, or potentially contain, licensed material unless approved by either the Safety and Environmental Review Panel~~ SERP or the NRC, as required.

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~~26-22.~~ WRT will ensure that all equipment used for media exchanges are functional and operate within the specifications described in **Section 3.17** of the Environmental Report. WRT system specialists will ensure that all media exchange activities are conducted in accordance with the written procedures **required by license condition 19** and in a manner that minimizes potential releases of **spent uranium-laden** treatment media **into the environment**.

~~27-23.~~ WRT shall, at a minimum, use a radiation monitoring program as described in **Section 3.16.5** of the Environmental Report.

~~28-24.~~ WRT shall, at a minimum, use an environmental monitoring program and emergency response procedures as described in **Sections 3.16 and 3.17** of the Environmental Report.

~~29-25.~~ ~~Where the uranium removal system is located~~ Prior to operation of a uranium removal system, WRT shall ensure the fire marshal or equivalent **individual who has responsibility for the site** has been contacted and provided instruction on uranium source material hazards and possible effects from a fire. **The SERP shall document WRT's or the Client's contacts with the fire marshal or equivalent individual.**

~~30-26.~~ WRT shall, at a minimum, use a **radiological** contamination control program as described in **Sections 3.16 and 3.17** of the Environmental Report.

~~31-27.~~ WRT shall, at a minimum, use security procedures and measures as described in **Section 3.16.4** of the Environmental Report. WRT shall also comply with and implement, in conjunction with **any** appropriate site personnel ~~and community water system security requirements~~, NRC ~~compensatory measures or other~~ **and any Client** security requirements ~~issued by the Commission~~.

~~32-28.~~ To prevent ~~the public~~ **any unauthorized persons** from accessing the uranium removal system when unattended, the system shall be housed in a locked shed or locked structure, be within the locked ~~community water system~~ **Client** facility, ~~and~~ or be within a locked fenced-in area and properly marked at all times, in accordance with the requirements of 10 CFR Part 20, **Subpart I**.

~~33.~~ ~~WRT shall, at a minimum, use standard operating procedures for media exchange and other related procedures as described in the Environmental Report.~~

~~34-29.~~ WRT shall, at a minimum, use transportation accident response standard operating procedures in accordance with the DOT-approved transportation contractor's response procedures. WRT will also conduct follow-up accident site surveys, as necessary.

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- ~~35-30.~~ WRT shall transfer uranium-laden (spent or fully-loaded) treatment media only to properly licensed or permitted facilities for final disposition as described in Section 3.17 of the Environmental Report. ~~WRT will obtain properly executed contracts with these facilities before initiating licensed activities and will designate a set of final disposition locations for spent treatment media at each community water system uranium water treatment program. WRT will select a final disposition location from the designated set of location before transferring each set of spent treatment media.~~
- ~~36-31.~~ Uranium-laden (spent or fully-loaded) treatment media ~~is~~ shall not ~~to~~ be stored at the ~~community water system~~ Client's facility for greater than 60 days following a media exchange and shall only be contained within the ion exchange vessel or DOT-approved containers.
- ~~37-32.~~ WRT shall conform its decommissioning activities to the methodology and requirements described in Section 3.18 of the Environmental Report and the NRC regulations in 10 CFR Part 20, Subpart E, and 10 CFR 40.42.
- ~~38-33.~~ Before a uranium removal system becomes operational, WRT shall create a standby trust, acceptable to the NRC, for the uranium removal system located at a ~~site-specific community water system~~ Client's facility. WRT shall obtain appropriate financial assurance mechanisms for site-specific ~~public or private community water systems~~ Client facilities before the uranium removal system becomes operational. For ~~public community water systems~~ Clients that are federal, state, or local government agencies, WRT may obtain statements of intent or guarantees pursuant to 10 CFR 40.36(e)(4) in accordance with WRT license application dated September 27, 2005; ~~and~~ subsequent supporting documentation dated August 14, 2006, August 30, 2006 and September 13, 2006; and Section 3.18.2 of the Environmental Report dated December 21, 2016. For private ~~community water systems~~ Clients, WRT will obtain acceptable financial assurance mechanisms pursuant to 10 CFR 40.36 in accordance with WRT license application dated September 27, 2005; ~~subsequent supporting documentation dated August 14, 2006, August 30, 2006 and September 13, 2006; and Section 3.18.2 of the Environmental Report dated December 21, 2016.~~
- ~~39-34.~~ The contract between WRT and each ~~community water system~~ Client shall include the statement, "For purposes of this Agreement, the NRC shall be considered an intended third-party beneficiary of any Financial Assurance mechanism required for activities under this Agreement and shall be granted rights to enforce the provisions of such financial assurance mechanism for Decommissioning or other related activities."
- ~~40-35.~~ WRT will prepare site-specific decommissioning cost estimates pursuant to the methodology delineated in the Environmental Report before initiating licensed activities. WRT will document such decommissioning cost estimates in its financial assurance mechanism for each Client. WRT will adjust decommissioning cost estimates pursuant to applicable NRC requirements, such as changes in engineering or design, and economic conditions, such as inflation, on an ~~annual~~ triennial basis or at license renewal.

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~~18-36.~~ WRT may, without NRC approval, make changes to standard operating procedures and conduct tests or experiments, provided that they are reviewed by the ~~Safety and Environmental Review Panel~~ SERP and ~~the company~~ WRT ensures that the following three conditions are met:

- (1) The change, test, or experiment does not conflict with any requirement specifically stated in ~~the WRT~~ this specific license or impair ~~the company~~ WRT's ability to meet all applicable NRC regulations.
- (2) ~~WRT continues to comply with~~ the safety or environmental commitments made in the Environmental Report or other licensing documents ~~are not degraded~~ identified in license condition 9.
- (3) The change, test, or experiment is consistent with the NRC's findings in its environmental assessment, dated MONTH, DAY, 2018, and ~~technical~~ safety evaluation report, dated MONTH, DAY, 2018.

If any of these conditions are not met, or if ~~WRT seeks to change~~ any ~~alterations are made to the license conditions of this specific license~~ or ~~any of the performance requirements in Sections 2.3, 3.13, 3.14, 3.15, 3.16, 3.17, and 3.18 of the license application~~ Environmental Report, or if WRT determines that the proposed ~~implementation~~ installation and operation of any uranium ~~water treatment programs~~ removal system is outside the scope of such performance requirements, then NRC approval through a license amendment will be required.

~~24-37.~~ The ~~WRT~~ ~~Safety and Environmental Review Panel~~ SERP shall document and maintain all decisions and determinations required by this specific license and as set forth as commitments in the Environmental Report and make such documentation available for NRC inspection. WRT shall provide the NRC with annual reports of all such decisions and determinations. Records shall be maintained at the address listed in license condition 2 and reports shall be made in accordance with all applicable NRC regulations.

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22.38. All written notices and reports to the NRC required under this **specific** license shall be addressed in care of the Document Control Desk, ~~Deputy~~ Director, ~~Decommissioning and Uranium Recovery Licensing Directorate~~ (Mailstop T-85 F-5A10), Division of ~~Waste Management and Environmental Protection~~ ~~Decommissioning, Uranium Recovery, and Waste Programs~~, Office of ~~Federal and State Materials and Environmental Management Programs~~ Nuclear Material Safety and Safeguards, Nuclear Regulatory Commission, Washington D.C. 20555-0001, or by express delivery to 11545 Rockville Pike, Two White Flint North, Rockville, MD 20852-2738. Required telephone notification shall be made to the NRC Operations Center at (301) 8165100 unless otherwise specified.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: 03/12/2009

~~Keith I. McConnell~~ John Tappert, ~~Deputy~~ Director
~~Decommissioning and Uranium Recovery~~
~~Licensing Directorate~~
 Division of ~~Waste Management~~ ~~Decommissioning, Uranium Recovery,~~
 and ~~Environmental Protection~~ Waste Programs
 Office of ~~Federal and State Materials~~ Nuclear Material Safety
 and ~~Environmental Management Programs~~ Safeguards

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