

**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.	5525 W. 56th Avenue, Suite 100 Arvada, CO 80002	4.	Expiration Date	January 25, 20XX
		5.	Docket or Reference Number	40-9059
6.	Byproduct, Source, and/or Special Nuclear Material:	7.	Chemical and/or Physical Form:	8. Maximum Amount that Licensee May Possess at Any One Time Under This License:
	Source		Any	No Limit

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, Environmental Report) dated December 21, 2016, as amended by WRT Responses to NRC Requests for Additional Information, dated August 23, 2017, except where superseded by licensed conditions contained in this license or as otherwise approved in writing by the NRC.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.
10. WRT shall contractually possess the uranium source material contained within the uranium removal system, including but not limited to 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 Client by WRT, WRT shall may execute a contract with the community water system Client to lease the uranium removal system to retain possession of the source material. If the uranium removal system is not leased back to WRT, WRT shall execute a contract with the 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. The contract shall specify the following commitments:
- WRT shall at all times own the treatment media and will take title to the uranium source material as it is loaded onto such media;
  - WRT shall be involved with and monitor the installation of the uranium removal system by the Client's contractor, and WRT shall be responsible for the startup of the uranium removal system to ensure its proper operation;
  - Client shall afford WRT access to the Client's uranium removal system at all times;
  - Client shall ensure that the uranium removal system is contained within a secured site that complies with security requirements issued by the Commission;
  - 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

**DRAFT MATERIALS LICENSE****MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number: SUC-1591

Docket or Reference Number: 40-9059

Amendment No. 42

- f. WRT shall be responsible for all treatment media exchanges, including the removal of the final charge of spent treatment media and disposal at an appropriately licensed facility at the termination of the operation of the uranium removal system.

If the uranium removal system is not leased back to WRT and WRT does not execute a contract containing the required terms or a contract expires prior to cessation of licensed activities, the ~~community water-system~~ Client will be required to obtain an NRC specific license prior to operation of the uranium removal system or expiration of a contract prior to cessation of WRT's licensed activities unless the Client meets or the requirements for a NRC general license in accordance with the provisions of 10 CFR 40.22 ~~comply with another future regulatory option, such as a general license, promulgated or endorsed by the NRC.~~

- ~~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.~~

- ~~12.11.~~ 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 media containing source material that could affect water resources. The uranium removal system shall not be located ~~on~~ at the 100-year floodplain unless ~~approved by the~~ WRT's Safety and Environmental Review Panel determines whether there are impacts and if the impacts cannot be avoided, measures have been developed to minimize the impacts and restore and preserve the floodplain as appropriate and makes its determination available to the NRC.

- ~~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.~~

- ~~14.12.~~ 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's~~ Safety and Environmental Review Panel, which is described in Section 3.14.2 of the Environmental Report, and made available to the NRC.

[Applicable Amendments: 42]

**DRAFT MATERIALS LICENSE****MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number: SUC-1591

Docket or Reference Number: 40-9059

Amendment No. 42

- ~~15-13.~~ The WRT Corporate Radiation Safety Officer shall possess the professional qualifications and shall satisfy the professional training requirements ~~outlined set forth~~ in Sections 3.16.1.1 and 3.16.2.1 of the Environmental Report and Appendix D of NUREG-1556, Vol. 18 before engaging in an corporate radiation safety officer activities.
- ~~14.~~ 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 listed in NRC Regulatory Guide 8.31 or for authorized users in Appendix D of NUREG-1556, Vol. 18 before engaging in any licensed activities.
- ~~16-15.~~ The WRT system specialists shall possess the professional qualification 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.
- ~~17-16.~~ WRT will ensure that ~~local utility~~ WRT Client's 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.
- ~~18-17.~~ 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 and WRT the-  
~~company~~ ensures that the following three conditions are met:
- (1) The change, test, or experiment does not conflict with any requirement specifically stated in this e-WRT-  
license or impair the company's ability to meet all applicable NRC regulations.
  - (2) WRT continues to comply with tThe safety or environmental commitments made in the Environmental Report or other licensing documents identified in license condition 9~~that may be issued by the NRC~~  
~~are not degraded.~~
  - (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 of the conditions of this license or any of any alterations are made to the license conditions or to 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 of any uranium water treatment programs is outside the scope of such performance requirements, then NRC approval through a license amendment will be required.

[Applicable Amendments: 42]



**DRAFT MATERIALS LICENSE****MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number: SUC-1591

Docket or Reference Number: 40-9059

Amendment No. ~~4~~2

~~19-18.~~ The Safety and Environmental Review Panel shall consist of a minimum of three individuals employed or appointed by WRT and an WRT employee shall be designated the Safety and Environmental Review Panel Chairperson. One member of the Safety and Environmental Review Panel 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 with the responsibility of ensuring ~~th~~at changes conform to radiological safety and environmental requirements. WRT may include additional members on the Safety and Environmental Review Panel 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.

~~20-19.~~ WRT will be permitted to register and implement new uranium removal systems at Community Water Systems that will operate within the scope of the performance requirements delineated in the Environmental Report. WRT must register, keep track of, and inform the NRC of all community water system facilities it enters into service contracts with, so that the number of such community water system 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 much contain the name and location of the community water system where the uranium removal system has become operational and contain a facility description summary and relevant features summary similar to Appendix A3.4 and A 3.5 of NUREG-1757, Vol. 3. The WRT Safety and Environmental Review Panel will review community water system requirements and document the conclusion that such requirements are within the performance requirements set forth in the Environmental Report. 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 will not be required to provide financial assurance as outlined in this license and will not be subject to on-site NRC inspection.

~~21-20.~~ The WRT Safety and Environmental Review Panel shall document ~~and maintain~~ all decisions and determinations required by this 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 in accordance with all applicable NRC regulations.

~~22-21.~~ All written notices and reports to the NRC required under this license shall be addressed in care of the Document Control Desk, ~~Deputy Director, Decommissioning and Uranium Recovery Licensing Directorate~~ (Mailstop T-8 F-5), Division of ~~Waste Management and Environmental Protection~~ Decommissioning, Uranium Recovery, and Waste Programs, Office of ~~Federal and State Nuclear~~ 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) 816-5100 unless otherwise specified.

**DRAFT MATERIALS LICENSE****MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number: SUC-1591

Docket or Reference Number: 40-9059

Amendment No. ~~4~~2

- ~~23-22.~~ 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 will review and approve all standard operating procedures before they are implemented.
- ~~24-23.~~ 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 requirements in license conditions 15 through 18 and the WRT performance requirements. Any planned alterations to the radiation safety program outside the scope of the WRT ~~performance requirements-commitments and license condition requirements~~ or that will fail to meet a condition for action by the Safety and Environmental Review Panel shall require NRC approval by license amendment.
- ~~25-24.~~ 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 or the NRC, as required.
- ~~26-25.~~ 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 22 and in a manner that minimizes potential releases of spent treatment media.
- ~~27-26.~~ WRT shall, at a minimum, use a radiation monitoring program as described in Section 3.16.5 of the Environmental Report.
- ~~28-27.~~ 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.
- ~~29-28.~~ Where the uranium removal system is located, WRT shall ensure the fire marshal or equivalent has been contacted and provided instruction on uranium source material hazards and possible effects from a fire.
- ~~30-29.~~ WRT shall, at a minimum, use a radiological contamination control program as described in Sections 3.16 and 3.17 of the Environmental Report.
- ~~31-30.~~ WRT shall, at a minimum, use security procedures and measures as described in Section of 3.16.4 of the Environmental Report. WRT shall also comply with and implement, in conjunction with appropriate site personnel and community water system Client security requirements, ~~NRC compensatory measures~~, or other security requirements issued by the Commission.

[Applicable Amendments: ~~4~~2]

**DRAFT MATERIALS LICENSE****MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number: SUC-1591

Docket or Reference Number: 40-9059

Amendment No. ~~41~~ **42**

- ~~32-31.~~ To prevent any unauthorized persons ~~the public~~ 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.
- ~~33. WRT shall, at a minimum, use standard operating procedures for media exchange and other related procedures as described in the Environmental Report.~~
- ~~34-32.~~ 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.
- ~~35-33.~~ 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.~~
- ~~36-34.~~ Uranium-laden (spent or fully-loaded) treatment media shall is 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.
- ~~37-35.~~ WRT shall conform its decommissioning activities to the methodology and requirements described in ~~the~~ Section 3.18 of the Environmental Report.
- ~~38-36.~~ 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, 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. 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.
- ~~39-37.~~ 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."

**DRAFT MATERIALS LICENSE****MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number: SUC-1591

Docket or Reference Number: 40-9059

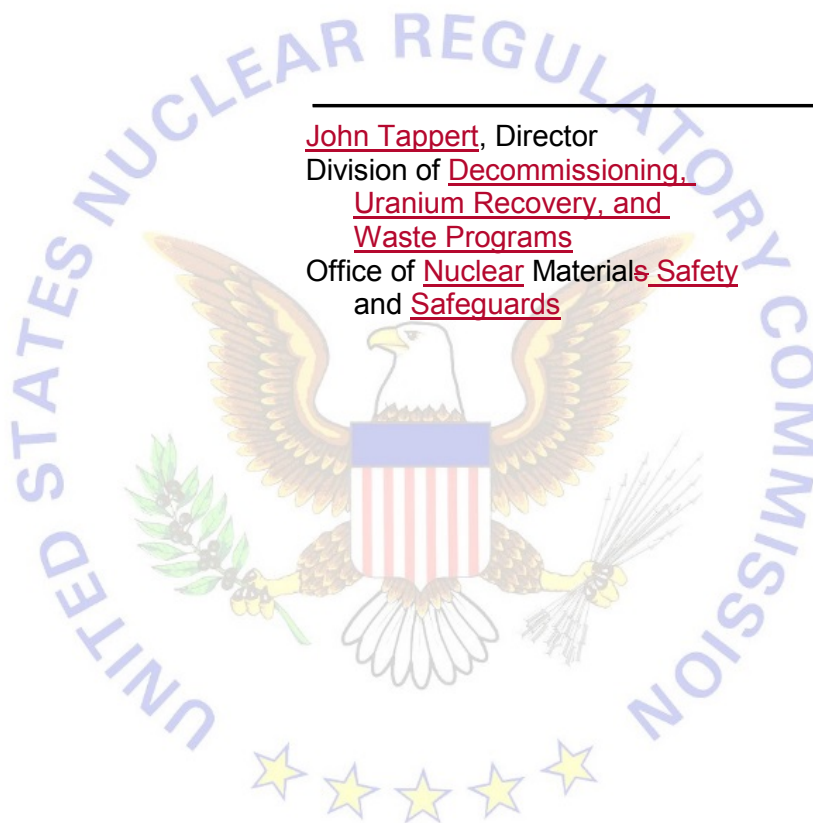
Amendment No. 42

**40-38.** 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 ~~community water system~~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.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: \_\_\_\_\_

\_\_\_\_\_  
John Tappert, Director  
Division of Decommissioning,  
Uranium Recovery, and  
Waste Programs  
Office of Nuclear Materials Safety  
and Safeguards

[Applicable Amendments: 42]