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REQUIRED REVIEW DATE (or expiration date for temporary change): 5/13/2031		EFFECTIVE DATE: 6/8/2023

REVISION/CHANGE LOG				
Revision/ Change Letter	Description of Changes	Pages Affected	Date of Revision/ Change	Approved By (signature on file)
FR0	Initial Release	All	12/10/2019	Documentation on File
FR1	General revision to incorporate changes from discussion with Department of Energy and Regulators	All	8/31/2020	
FR2	General revision to incorporate changes related to data review and selection of license agreement to send to property owner	All	01/12/2022	
FR2A	Changes made to section 6.3, License Agreements and NOTE in section 6.1, Updating Water Bill Spreadsheet and Monthly DOE Billing Register	5-8	02/18/2022	
FR3	General revisions to reflect changes from Organizational changes and municipal water provider.	All	06/08/2023	
FR3A	Periodic Review has been completed with no changes identified in procedure technical content. Nonintent changes have been incorporated per CP3-NS-2001. Date for review cycle has been reset.	All	5/13/2026	Megan Mulry

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure defines the process and responsibilities for management of the U.S. Department of Energy (DOE) Water Policy.

1.2 Scope

Upon detecting trichloroethene (TCE) and technetium-99 (Tc-99) in private wells located north of the Paducah Site in August 1988, the DOE immediately placed potentially affected residences and/or businesses on alternate water supplies and began an intensive monitoring and investigation program to define the extent and temporal variations of the groundwater contaminant plumes. DOE developed the Paducah Site Water Policy in accordance with DOE/OR/06-1142&D3, (EE/CA), *Engineering Evaluation/Cost Analysis for the Water Policy at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*, and DOE/OR/06-1201&D2, *Action Memorandum for the Water Policy at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*.

The objectives of the removal action are 1) to prevent residents in the Water Policy Boundary and adjacent area (hereon referred to as Water Policy Area) from using contaminated groundwater by providing municipal water to residences and businesses, and entering into agreements with each household or business that eliminate the use of private water wells and the drilling of new water supply wells and 2) to sample/analyze groundwater wells to monitor the migration of contamination plumes.

The Paducah Site Water Policy states, “It is the intent of the Paducah Gaseous Diffusion Plant (PGDP) Environmental Restoration Program to offer municipal water service in accordance with this Policy to all existing private residences and businesses within the projected migration area of the contaminated groundwater originating at PGDP (affected area).” With the adoption of the Water Policy, DOE focused its groundwater monitoring program on the Water Policy Boundary and adjacent areas that might be affected if and when the plume migrates or expands.

2.0 REFERENCES

2.1 Use References

- CP1-ES-0065, *Guidelines to Manage Water Bills for Water Policy Landowners*
- CP2-ES-0006, *Environmental Monitoring Plan Fiscal Year 2023 Paducah Gaseous Diffusion Plant, Paducah, Kentucky*

2.2 Source References

- DOE/OR/06-1142&D3, *Engineering Evaluation/Cost Analysis for the Water Policy at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*
- DOE/OR/06-1201&D2, *Action Memorandum for the Water Policy at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*
- DOE/LX/07-1289&D2/R1/A2/R2 (Appendix C), *Water Policy Additional Actions Addendum to the Five-Year Review for Remedial Actions at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*

3.0 COMMITMENTS

- DOE/OR/06-1201&D2, *Action Memorandum for the Water Policy at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*

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- DOE/LX/07-1289&D2/R1/A2/R2 (Appendix C), *Water Policy Additional Actions Addendum to the Five-Year Review for Remedial Actions at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*
- *Memorandum of Agreement for Resolution of Informal Dispute Concerning U.S. Environmental Protection Agency and Kentucky Department for Environmental Protection Requirements for Additional Actions or Modifications Regarding the CY 2018 Five-Year Review for Remedial Actions at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky (DOE/LX/07-2426&D2)*
- Contract No. DE-EM0004895: Four Rivers Nuclear Partnership, LLC, Deliverable No. 38
- Contract No. DE-EM0004895: Four Rivers Nuclear Partnership, LLC, Deliverable No. 39
- Contract No. DE-EM0004895: Four Rivers Nuclear Partnership, LLC, Deliverable No. 40

4.0 RESPONSIBILITIES

4.1 Water Policy Coordinator

Responsible for the overall management and implementation of the Water Policy project including, but **NOT** limited to interactions with property owners, residents, DOE, and outside agencies (as approved by DOE) concerning all matters regarding Water Policy management.

5.0 GENERAL INFORMATION

Water Policy Additional Actions Addendum to the Five-Year Review for Remedial Actions at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, DOE/LX/07-1289&D2/R1/A2/R2 (Addendum) states the following: DOE will coordinate future annual educational fact sheets with U.S. Environmental Protection Agency (EPA)/Kentucky Department for Environmental Protection (KDEP) by providing a copy of the educational fact sheet seven calendar days in advance of mailing. Should EPA/KDEP require additional review time, EPA/KDEP will make a timely request within the seven day review period. Annual education fact sheets will be prepared during the first quarter of each calendar year, unless another time is agreed to by the Federal Facility Agreement parties. Comments received will be addressed, as appropriate, prior to issuing the fact sheet to the public.

Coordinate the mailing and mailing list of Water Policy Educational Fact Sheet Mailer with Contractor Public Relations organization and the Contractor Federal Facilities Agreement Manager.

6.0 INSTRUCTIONS

NOTE:

The following steps may be performed in any order.

6.1 Updating Water Bill Spreadsheet and Monthly DOE Billing Register

Water Policy Coordinator

- 6.1.1** Enter monthly water bill information provided from the DOE Infrastructure Contractor (submitted by Paducah Water) into the spreadsheet at S:\Env Services\Water Policy\New Water Policy\! WP Management\Water Bills\01-Master Water bills R0.xlsx.
- 6.1.2** Analyze water bill spreadsheet for trends.

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NOTE:

Trends are examined for high or low water usage.

- 6.1.3 Provide results of any trends to management, as needed, so appropriate actions can be taken. Examples of actions may be related to trends that could indicate a water leak or use of municipal water above reasonable usage.
- 6.1.4 Review any water bill over \$100 with Environmental Monitoring Manager.
- 6.1.5 Review the DOE water billing register monthly according to CP1-ES-0065, Guidelines to Manage Water Bills for Water Policy Residents.
- 6.1.6 Provide guidance to the DOE Infrastructure Contractor via e-mail regarding payment of the water billing register.
- 6.1.7 Communicate via e-mail or phone to Paducah Water any additions or removals from the DOE water bill register, as needed.
- 6.1.8 Provide contact information to Paducah Water for dissemination to residents when questions arise about the DOE Water Policy.

6.2 Updating Water Policy Area Information

- 6.2.1 Maintain annual subscription to the online McCracken County Property Valuation Administrator Office (PVA).
- 6.2.2 Verify landownership with the McCracken County Property Valuation Office, as necessary, **but** at a minimum annually.
- 6.2.3 Verify Deed Book information with the PVA or the McCracken County Court House, as necessary, **but** at a minimum annually.
- 6.2.4 Update Water Policy database based on the results of the verification steps listed above, as needed.
- 6.2.5 Distribute updated Water Policy resident list semiannually to Federal Facility Agreement parties.

6.3 License Agreements

- 6.3.1 Maintain license agreements with property owners that have Water Policy license agreements in the Water Policy Area.
- 6.3.2 Maintain a master file of all license agreements **and** update this file as changes arise.
- 6.3.3 Review the master file of property owners as necessary, but at a minimum semi-annually:
 - A. **If** property owner does **NOT** have a current license agreement, **then** proceed with the following steps:
 - 1. Identify reason, to the extent possible, for **NOT** having a license agreement with the property owner.

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2. If a license agreement should be offered, **then** transmit the appropriate license agreement according to Steps **6.3.10** through **6.3.12**.

3. If a license agreement should **NOT** be offered, **then** document the decision in the Water Policy database.

B. If a resident or property owner requests a license agreement, **then** proceed with the following steps to determine a recommendation for DOE:

1. Verify the address **and** property owner with the McCracken County Property Valuation Office and/or McCracken County Court House.

2. Develop and/or request a map of the parcel.

3. Compile any historical information concerning the parcel (for example: well data, previous owner).

4. If a license agreement should be offered, **then** transmit the appropriate license agreement according to Steps **6.3.10** through **6.3.12**.

5. If a license agreement should **NOT** be offered, **then** document the decision in the Water Policy database.

6.3.4 Maintain an electronic copy of all license agreements.

6.3.5 Maintain a log of all communication with residents **and/or** property owners.

6.3.6 Coordinate with the Characterization Manager to receive a list of well sampling activities by month.

6.3.7 If a request is received from DOE or its contractors to access private property **and** the resident has a current license agreement with right to access their property, **then** perform the following:

A. Attempt to contact the resident at least 24 hours in advance of DOE and/or contractor accessing property as required in the license agreement (for example: samplers or mowers needing access).

B. Document these attempts in the Water Policy database.

6.3.8 If there is **NOT** a current license agreement, **then** ensure the requestor (such as: DOE or its contractors) understands **NO** access to the property is permitted.

NOTE:

Table **B.1**, *Well Program Inventory*, located in Appendix B, *Well Program Inventory* of CP2-ES-0006, *Environmental Monitoring Plan Fiscal Year 2023 Paducah Gaseous Diffusion Plant, Paducah, Kentucky*, includes a list of Monitoring Wells and Residential Wells along with the property owner information (DOE, Tennessee Valley Authority [TVA], Kentucky Department of Fish and Wildlife Resources [KDFWR], or private resident).

6.3.9 If a current license agreement is in place and is about to expire, **then** mail license agreement renewals to property owners at least 90 days **prior** to the expiration date, or as required by the contract.

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6.3.10 Choose the appropriate license agreement to send to the property owner based on the parcel of land, if there is a water meter on the property, if there is a well on the property, or if the property is in the Water Policy affected area.

A. Possible license agreements to send to property owners include:

- Residential Well Water Policy License Agreement – this license agreement covers a parcel located within the Water Policy Area where DOE may perform miscellaneous sampling, includes the potential sampling of a residential well and provision of municipal water;
- Monitoring Well/ Residential Well Water Policy License Agreement – this license agreement covers a parcel located within the Water Policy Area with a monitoring well where DOE may perform sampling, may include a residential well where DOE may perform sampling, and provision of municipal water;
- Property Outside the Water Policy Area License Agreement – this license agreement covers a parcel located outside the Water Policy Area with a residential well or monitoring well where DOE may perform sampling, but does **NOT** include provision of municipal water;
- Vacant Lot License Agreement – this license agreement covers a parcel of land located in the Water Policy Area where the owner does **NOT** reside on the property in the Water Policy Box; there is **NO** residence, monitoring well, or residential well located on the property; and DOE would like to access the property to perform miscellaneous sampling, if necessary;
- Residential Water Policy License Agreement (excluding residential well) - this license agreement covers a parcel located within the Water Policy Area where DOE may perform miscellaneous sampling (but excludes a residential well because one does **NOT** exist) and provision of municipal water.

6.3.11 Complete two originals of the appropriate Water Policy License Agreement prior to contacting the property owner.

6.3.12 Transmit the Water Policy License Agreement to the property owner.

6.3.13 If property owner(s) agrees to sign, **then** obtain signatures of the property owner(s) on both originals of the license agreement.

A. Provide the two original signed license agreements to DOE for execution.

B. Provide one original of the executed license agreement to the property owner when received back from DOE.

6.4 Annual Payments for Monitoring Well or Residential Well Sampling on Private Land

6.4.1 Request check on an annual basis for property owners with monitoring wells located on their property.

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NOTE:

Checks for property owners are processed in the winter or summer.

- 6.4.2** Request check on an annual basis for property owners **NOT** within the Water Policy Area with residential wells or monitoring wells sampled by DOE.
- 6.4.3** Transmit check along with cover letter to property owner.
- 6.4.4** Document payment to property owner in the Water Policy database.

6.5 Sample Results Transmittal

- 6.5.1** As required by the Contract and Water Policy License Agreement, develop sample result transmittals.

NOTE:

Sample result transmittals are required for data from:

- Residential Wells and Monitoring Wells sampled under the Water Policy Boundary Monitoring Program or the Carbon Filter Treatment System Program specified in the Environmental Monitoring Plan.
- Background Air Monitor sampled under the Ambient Air Monitoring Program specified in the Environmental Monitoring Plan.
- Monitoring Wells sampled under other programs specified in the Environmental Monitoring Plan.

- 6.5.2** Obtain data from the Sample Management Office for assessment.
- 6.5.3** Once assessment is complete, flag the data to be loaded into Oak Ridge Environmental Information System (OREIS) but **NOT** to Portsmouth/Paducah Project Office Environmental Geographic Analytical Spatial Information System (PEGASIS).
- 6.5.4** Submit sample result transmittals to DOE.
- 6.5.5** **After** sample results have been provided to the property owner, **then** notify the Sample Management Office to flag data so that it will be loaded to PEGASIS.

NOTE:

Data will be provided to property owner prior to the data being loaded to PEGASIS or published in an external report.

- 6.5.6** Ensure that requirements to send data to property owners is tracked in the deliverables tracking report.

6.6 Annual Water Policy Educational Fact Sheet Mailer

- 6.6.1** Develop the annual Water Policy Educational Fact Sheet Mailer during December of each year for finalization with DOE **and** EPA/KDEP during the first quarter of each calendar year.

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6.6.2 Ensure Water Policy Educational Fact Sheet Mailer is mailed to the following distribution list consistent with *Memorandum of Agreement for Resolution of Informal Dispute Concerning U.S. Environmental Protection Agency and Kentucky Department for Environmental Protection Requirements for Additional Actions or Modifications Regarding the CY 2018 Five-Year Review for Remedial Actions at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*, (DOE/LX/07-2426&D2):

- All residences and businesses within the Water Policy affected area
- Owners of property within the Water Policy affected area who do **NOT** reside at the property
- Paducah Citizens Advisory Board (CAB) members contact list (provided through the CAB office)
- Local elected officials and city contacts (see most recent Community Relations Plan)
- PGDP Reading File maintained by the McCracken County Library Special Collections desk

6.6.3 Coordinate placing the Water Policy Educational Fact Sheet Mailer in the Administrative Record after it has been sent to the current residents and property owners in the Water Policy Area.

6.6.4 Review any Water Policy Educational Fact Sheet Mailer that is returned. Try and determine possible cause for the return of the mailer and document in Water Policy database.

6.7 Demonstration that Residents Located Over the Contaminated Groundwater Plume are NOT Using Groundwater

6.7.1 Analyze on an annual basis the parcels in relation to the current plume maps **and** determine how many parcels are located over the 5µg/L **or** greater TCE plumes.

6.7.2 Verify that water bills for identified parcels in Step **6.7.1** have been reviewed monthly to identify any trends in usage.

NOTE:

Trends are examined for high or low water usage.

6.7.3 Review records for properties located over the 5µg/L or greater TCE plumes to determine whether those parcels have residential wells, DOE caps and locks, **and/or** license agreements, and are part of the inspection program discussed in Section **6.8**, as applicable.

6.7.4 Review the Kentucky water well database to ensure no additional groundwater wells have been installed over the 5µg/L or greater TCE plumes. The database may be accessed using the following link: <http://kgs.uky.edu/kgsweb/datasearching/Water/WaterWellSearch.asp>.

6.7.5 Conduct a visual assessment of properties overlying or immediately downgradient of the 5µg/L **or** greater TCE plumes and ensure the following.

- For the property owners with a current Water Policy License Agreement, each shall be contacted to gain access to the site to confirm no residential well is being used **and** to check that any existing well remains capped and locked, as applicable.

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- For the property owners without a current Water Policy License Agreement, a drive-by assessment shall be conducted to document any evidence of water well usage.

6.8 Cap and Lock Inspection

- 6.8.1 Ensure an annual inspection of the caps **and** locks installed on residential wells is conducted to verify the wells are nonoperational.
- 6.8.2 Document cap and lock inspection on CP4-ES-1013 F01, *Water Policy Residential Well Inspection Form*.
- 6.8.3 Include information from the annual inspection of the caps and locks in the Water Policy area log for documentation.

6.9 Request for Residential Well Testing

- 6.9.1 Provide recommendation to DOE when a request for residential well testing is received.
- 6.9.2 Include in the recommendation to DOE: contact information **and** location of residential well in relation to the PGDP site.
 - A. **If** location is **NOT** within the Water Policy area, **then** DOE will supply information to the resident to contact the KDEP.
 - B. **If** the location is within the Water Policy area, **then** provide recommendation to DOE.

6.10 Annual Due Diligence

- 6.10.1 Provide to DOE an Annual Due Diligence report.
- 6.10.2 Include in the Annual Due Diligence report a summary of activities documented on a checklist and conducted as described in Sections 6.1 through 6.3 and 6.5 through 6.9.

7.0 RECORDS

7.1 Records Generated

The following records may be generated by this procedure:

- CP4-ES-1013 F01, *Water Policy Residential Well Inspection Form*
- Letters containing sample results
- Annual Due Diligence report
- License Agreements
- Correspondence
- Annual Water Policy Educational Fact Sheet Mailer

Residential Well Inspection Forms are to be completed according to CP3-OP-0024, *Forms Control*.

7.2 Records Disposition

The records are to be maintained according to CP3-RD-0010, *Records Management Process*.

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Appendix A – Acronyms/Definitions

ACRONYMS

DOE – U.S. Department of Energy

EE/CA – Engineering Evaluation/Cost Analysis

EPA – U.S. Environmental Protection Agency

KDEP – Kentucky Department for Environmental Protection

KDFWR – Kentucky Department of Fish and Wildlife Resources

MOA – Memorandum of Agreement

OREIS – Oak Ridge Environmental Information System

PEGASIS - Portsmouth/Paducah Project Office Environmental Geographic Analytical Spatial Information System

PGDP – Paducah Gaseous Diffusion Plant

PVA – McCracken County Property Valuation Administrator Office

Tc-99 – Technetium-99

TCE – Trichloroethene

TVA – Tennessee Valley Authority

DEFINITIONS

Resident – Individual(s) living in residence located on the property where the address is included within the Water Policy area. Resident may or may **NOT** be the property owner.

Property Owner – Individual(s) owning the property where the address is included within the Water Policy area. Property owner may or may **NOT** live on the property as the resident.