

**Current Human Exposures Under Control
Environmental Indicator (EI) RCRAInfo code (CA725)
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DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

**RCRA Corrective Action
Current Human Exposures Under Control**

Facility Name: AREVA NP Inc _____
Facility Address: 2101 Norn Rapids Road, Richland, WA 99354 _____
Facility EPA ID #: WAD990828402 _____

- I. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

If yes - check here and continue with #2 below.

If no - re-evaluate existing data, or

if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993 (GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be “contaminated”¹ above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

Media	Yes	No	?	Rationale / Key Contaminants
Groundwater	X			Fluoride, Uranium, Nitrate. These contaminants are currently sampled and monitored semiannually pursuant to a Ground Water Monitoring Plan approved by Ecology.
Air (indoors) ²		X		
Surface soil (e.g., <2 feet)		X		
Surface water		X		
Sediment		X		
Subsurface soil (e.g., >2 feet)		X		
Air (outdoors)		X		

_____ If no (for all media) - skip to #6, and enter “YE,” status code after providing or citing appropriate “levels,” and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.

___X___ If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter “IN” status code.

Rationale and Reference(s): AREVA NP Inc is a nuclear fuel fabrication facility, located in Richland, WA, which manufactures nuclear fuel for commercial light water reactors. AREVA’s manufacturing process included 6 surface impoundments. The impoundments leaked with time and on April 12, 1996 a Consent Decree was issued to remove the impoundments and remediate the contaminated soils. All sources of contamination from AREVA were removed in 2006 when the lagoons were dug up and remediated. Residual fluoride, uranium, nitrate are present in measurable quantities in the groundwater. Nitrate contamination from off-site agricultural sources is also present in the ground water under the facility. These existing contaminants are being monitored pursuant to the Compliance Groundwater Monitoring Plan that was approved by Ecology on March 6, 2008. Uranium has been measured off-site at 111 ug/l in 1999; however, it has decreased to 23.8 Ug/l in 2008. Drinking water standards for uranium are 30 ug/l. Fluoride levels have remained below drinking water standards both on site and off site. The contamination levels have stabilized and are not increasing or migrating off site. The nitrates levels exceed

¹ “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

² Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggests that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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MTCA cleanup levels in the ground water below the facility. Residual nitrates from the surface impoundment remediation exist; however, over half of the nitrate contamination appears to be from off-site agricultural sources.

REFERENCES:

Compliance Groundwater Monitoring Plan, AREVA NP Inc, Document E06-07-009, Version 2, 2008

2008 Annual Groundwater Report, June 2009, AREVA NP Inc, Document E06-09-001

Closure Certification for the AREVA NP Surface Impoundment System, AREVA NP, September 21, 2006

Hanford Site Groundwater Monitoring for Fiscal Year 2008, DOE/RL-2008-66, Rev 0

3. Are there **complete pathways** between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential Human Receptors (Under Current Conditions)

“Contaminated” media	Residents	Workers	Daycare	Construction	Trespassers	Recreation	Food ³
Groundwater	No	No	No	No	No	No	No
Air (indoors)							
Surface soil (e.g., <2 feet)							
Surface water							
Sediment							
Subsurface soil (e.g., >2 feet)							
Air (outdoors)							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors’ spaces for Media which are not “contaminated”) as identified in #2 above.
2. Enter “yes” or “no” for potential “completeness” under each “Contaminated” Media – Potential Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“___”). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

 X If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter “YE” status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

_____ If yes (pathways are complete for any “Contaminated” Media - Human Receptor

³ Indirect pathway/receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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combination) - continue after providing supporting explanation.

_____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale and Reference(s):_ All sources of contamination from AREVA have been removed and closed in 2006 when the lagoons were remediated. Some existing groundwater contamination exists; however, the contamination levels have stabilized and are not increasing. The ground water off-site exceeds MTCA cleanup levels for nitrates. The off-site contamination is expected to come from agricultural sources. Over half of the nitrate in the ground water below the AREVA facility is from off-site agricultural sources. Uranium has been measured off-site at 111 ug/l in 1999; however, it has decreased to 23.8 UG/l in 2008. Drinking water standards for uranium are 30 ug/l. Fluoride levels have remained below drinking water standards both on site and off site. Groundwater continues to be monitored pursuant to the Compliance Groundwater Monitoring Plan that was approved by Ecology on March 6, 2008.

REFERENCES:

2008 Annual Groundwater Report, June 2009, AREVA NP Inc

Closure Certification for the AREVA NP Surface Impoundment System, AREVA NP, September 21, 2006

Hanford Site Groundwater Monitoring for Fiscal Year 2008, DOE/RL-2008-66, Rev 0

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4. Can the exposures from any of the complete pathways identified in #3 be reasonably expected to be "significant"⁴ (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

_____ If no (exposures cannot be reasonably expected to be significant (i.e., potentially "unacceptable" for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s): _____

⁴ If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5 Can the "significant" exposures (identified in #4) be shown to be within acceptable limits?

_____ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If no (there are current exposures that can be reasonably expected to be "unacceptable") - continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

_____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s): _____

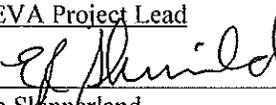
6. Check the appropriate RCRAInfo status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

YE YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the AREVA NP, Inc facility, EPA ID # WAD990828402, located at Richland, WA under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

_____ NO - "Current Human Exposures" are NOT "Under Control."

_____ IN - More information is needed to make a determination.

Completed by (signature)  Date 8/31/09
(print) Jeffrey M. Ayres
(title) AREVA Project Lead

Supervisor (signature)  Date 8/31/09
(print) Ron Skinnerland
(title) Waste Management Section Manager
WA Dept of Ecology, Nuclear Waste Program, Richland, WA 99354

Locations where References may be found:

AREVA NP Inc, Richland, WA
WA Dept of Ecology, Richland, WA

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Contact telephone and e-mail numbers

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(phone #) 509-372-7881
(e-mail) jayr461@ecy.wa.gov

FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

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Interim Final 2/5/99

RCRA Corrective Action
Migration of Contaminated Groundwater Under Control

Facility Name: AREVA NP Inc _____
Facility Address: 2101 Norn Rapids Road, Richland, WA 99354 _____
Facility EPA ID #: WAD990828402 _____

- I. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?
- X If yes - check here and continue with #2 below.
- If no - re-evaluate existing data, or
- if data are not available, skip to #8 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future. _

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993 (GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Is groundwater known or reasonably suspected to be “contaminated”¹ above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.

If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”

If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s): Fluoride, Uranium, Nitrate are present in measurable quantities in the ground water below the facility. Note: most of the nitrate is from off-site agricultural sources. The contaminants were a result from the leaking surface impoundment system that was remediated and clean closed in 2006. All sources of contamination from AREVA were removed in 2006 when the lagoons were dug up and remediated. Groundwater monitoring has been performed since 1991. The existing contaminants in the ground water are being sampled and monitored biannually pursuant to the Compliance Groundwater Monitoring Plan that was approved by Ecology on March 6, 2008. It should be noted that of the contaminants being monitored, nitrate contamination in the groundwater from offsite agricultural sources exceeds MTCA groundwater cleanup values. Residual fluoride, uranium, nitrate are present in measurable quantities in the groundwater. Nitrate contamination from off-site agricultural sources is also present in the ground water under the facility. Uranium has been measured off-site at 111 ug/l in 1999; however, it has decreased to 23.8 UG/l in 2008. Drinking water standards for uranium are 30 ug/l. Fluoride levels have remained below drinking water standards both on site and off site. The contamination levels have stabilized and are not increasing or migrating off site.

REFERENCES:

Compliance Groundwater Monitoring Plan, AREVA NP Inc, Document E06-07-009, Version 2, 2008

2008 Annual Groundwater Report, June 2009, AREVA NP Inc, Document E06-09-001

Closure Certification for the AREVA NP Surface Impoundment System, AREVA NP, September 21, 2006

Hanford Site Groundwater Monitoring for Fiscal Year 2008, DOE/RL-2008-66, Rev 0

3. Has the migration of contaminated groundwater stabilized (such that contaminated groundwater is expected to remain within “existing area of contaminated groundwater”² as defined by the monitoring

¹ “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

² “existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public

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locations designated at the time of this determination)?

Yes If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination".

If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination") - skip to #8 and enter "NO" status code, after providing an explanation.

If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): All sources of contamination from AREVA have been remediated in 2006 when the lagoons were remediated. Some existing groundwater contamination exists; however, the contamination levels have stabilized and are not increasing or migrating off site. Overall, ground water contamination levels from Uranium and Fluoride has decreased since 1991 when monitoring was first initiated. The nitrate levels, however, have increased over time due to increases in nitrate levels from off-site sources. The nitrates levels entering the site from agricultural sources currently remain stable at 51 mg/l. Nitrate levels in down gradient wells are as high as 79.5 mg/l. Uranium has been measured off-site at 111 ug/l in 1999; however, it has decreased to 23.8 UG/l in 2008. Drinking water standards for uranium are 30 ug/l. Fluoride levels (<3.5 mg/l) have remained below primary drinking water standards both on site and off site.

4. Does "contaminated" groundwater discharge into surface water bodies?

If yes - continue after identifying potentially affected surface water bodies.

NO If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): _____

5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration³ of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration³ of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of

participation) allowing a limited area for natural attenuation.

³ As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

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professional judgment/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration³ of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s): _____

6. Can the discharge of "contaminated" groundwater into surface water be shown to be "currently acceptable" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented)?⁴

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,⁵ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater cannot be shown to be "currently acceptable") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

⁴ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁵ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

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_____ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s): _____

7. Will groundwater **monitoring**/measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

_____ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

_____ If no - enter "NO" status code in #8.

_____ If unknown - enter "IN" status code in #8.

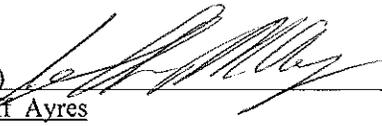
Rationale and Reference(s): _____

8. Check the appropriate RCRAInfo status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

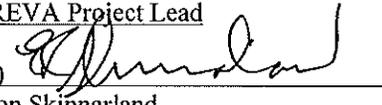
YE YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the AREVA NP Inc facility, EPA ID # WAD990828402, located at Richland, WA. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

_____ NO - Unacceptable migration of contaminated groundwater is observed or expected.

_____ IN - More information is needed to make a determination.

Completed by (signature) 
(print) Jeff Ayres
(title) AREVA Project Lead

Date 8/31/09

Supervisor (signature) 
(print) Ron Skinnarland

Date 8/31/09

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(title) Waste Management Section Manager
WA Dept of Ecology, Nuclear Waste Program, Richland, WA 99354

Locations where References may be found:

AREVA NP Inc, Richland, WA
WA Dept of Ecology, Nuclear Waste Program, Richland, WA

Contact telephone and e-mail numbers

(name) Jeff Ayres
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(e-mail) jayr461@ecy.wa.gov