



July 20, 2017

July 2017 Citizens Advisory Board Meeting Agenda

Chair

Renie Barger

Vice-Chair

Mike Kemp

Board Members

Renea Akin
Charles Allen
Cindy Butterbaugh
Victoria Caldwell
Judy Clayton
Basil Drossos
Nancy Duff
Celeste Emerson
Lesley Garrett
Tom Grassham
Shay Morgan
Bill Murphy
Cindy Ragland
Patrick White
Carol Young

Jennifer Woodard
DOE DDFO

Buz Smith
DOE Federal Coordinator

Board Liaisons

Brian Begley
*Division of Waste
Management*

Julie Corkran
*Environmental Protection
Agency*

Mike Hardin
Fish and Wildlife Resources

Stephanie Brock
Radiation Health Branch

Support Services

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6:00pm

Call to order, introductions
Review of agenda

DOE Comments

-- 5 minutes

Federal Coordinator Comments

-- 5 minutes

Liaison Comments

-- 5 minutes

Administrative Issues

-- 20 minutes

- EM SSAB Chairs Recommendation – Cleanup Performance Road Map and Communication Strategy
- EM SSAB Chairs Recommendation – Above Ground Storage at the Waste Isolation Pilot Project

Presentations

--30 minutes

- Authorized Limits for the Paducah Gaseous Diffusion Plant Wildlife Management Area

Public Comments

-- 15 minutes

Final Comments

-- 10 minutes

Adjourn



PADUCAH GASEOUS DIFFUSION PLANT CITIZENS ADVISORY BOARD

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Paducah Gaseous Diffusion Plant Citizens Advisory Board Meeting Minutes July 20, 2017

The Citizens Advisory Board (CAB) met at the Environmental Information Center (EIC) in Paducah, Kentucky on Thursday, July 20th at 6:00 p.m.

Board members present: Renie Barger, Bill Murphy, Mike Kemp, Tom Grassham, Basil Drossos, Victoria Caldwell and Lesley Garrett.

Board Members absent: Carol Young, Patrick White, Judy Clayton, Nancy Duff, Cindy Ragland, Cindy Butterbaugh, Renea Akin, Celeste Emerson, Shay Morgan and Charles Allen.

Board Liaisons and related regulatory agency employees: Gaye Brewer, (KDWM); Julie Corkran, EPA (on phone); Brian Begley (KDWM); Stephanie Brock (KY Radiation Health Branch); Chris Jung, (KDEP).

DOE Deputy Designated Federal Official: Jennifer Woodard, DOE.

U.S. Department of Energy (DOE) related employees: Robert Smith, Gil Whitehurst, Don Dihel, DOE; Steve Christmas, Fluor Paducah (Fluor); Cory Hicks, Myrna Redfield, Curt Walker, James Miller, Lynette Bennett, John Fulton, Mike Swartz, Allen Schubert, Richard Williams, Bill Kirby, Four Rivers Nuclear Partnership, LLC (FRNP); Eric Roberts, Jim Ethridge, EHI Consultants (EHI).

Public: Mike Turnbow, Sherry Williams, Fran Johnson, Chuck Bernhard and Gary Vander Boegh

Introductions:

Barger opened the meeting at 6:00 pm, and asked for introductions. She then turned the meeting over to **Woodard** for DOE comments.

DOE Comments

Woodard announced that the new EM-1 for DOE was Jim Owendoff. She then introduced Bill Kirby from Four Rivers Nuclear Partnership (FRNP) and asked him to introduce his team. **Kemp** asked for an org chart with photos of the major people from FRNP that the CAB would be seeing at future meetings. **Woodard** then introduced **Don Dihel** for a presentation on authorized limits.

Presentations

Dihel explained that authorized limits are the radiological limits that areas around the plant are set by and includes the signage and boundaries that warn the public of those limits. **Murphy** asked if there

was a boundary fence around the Wildlife Management Area (WMA) around the DOE site. **Dihel** indicated that there was not.

Murphy asked if once radioactive material was identified if DOE tried to identify where the material came from and how to address the problem. **Dihel** indicated that most of the areas that have been identified have been the borders of the creeks and dirt piles where the creeks have been dredged. He added that areas that looked like had been man made were also investigated.

Murphy asked if the timetable for turning over the area outside the security fence was different from the property inside the fence. **Woodard** explained that they would release the cleaner areas first unless there was interest in the facilities inside the fence. **Kemp** asked if the authorized limits were the same across the site or were different for different areas. **Dihel** indicated that the limits were the same for all areas outside the fence. **Kemp** then asked how the limits changed after the modeling was performed. **Dihel** said that it was higher but added that you could not compare the two directly.

Caldwell asked what the reason was for changing the signage in the areas outside the fence. **Woodard** explained that there were several reasons. She added that the signage that had been in place might not be needed anymore because the area is no longer a radiological issue because of the proper limits that have been discovered.

Brock asked if DOE might plan to remove a problem in the WMA instead of using signs and boundary ropes/chains. **Dihel** said that if it was a small area that it might be reasonable to remove the problem, but that would not be determined until the area was investigated. He added that the areas would have an independent verification done before any action would be taken.

Federal Coordinator Comments

None

Liaison Comments

Corkran asked **Dihel** if he could let her know who within EPA Region 4 he worked with to develop the authorized limits for the site. **Dihel** indicated that he would.

Begley told the newer members that the Kentucky Division of Waste Management web page has a lot of information that might be of interest to them, as well as a quarterly newsletter, which is also on their web page. **Roberts** indicated that the web page address would be forwarded to all the members.

Public Comments

Vander Boegh: I appreciate the Board being here tonight even though they don't have a quorum but I understand that this Board doesn't have anybody that's a former plant worker on it or a former worker that maybe worked in waste management. So the new contractor, Four Rivers, are you all still with Four Rivers? Steve (Christmas) you're not, but you're going to be hired though. You're with Fluor. Steve and I go way back. Just so this goes in the meeting minutes and we're not going to do anything but give you all the truth. And so Don (Dihel) presented something, and of course Jennifer (Woodard) hadn't been here very long here with DOE. She and I were coworkers with one of the Lockheed Martin accounting people. Buz (Smith) is a former city commissioner. Some of these EPA people, and I assume Julie (Corkran), is she still on the line? I didn't hear that, is she off? (Corkran on phone) "Gary I'm here, I had it on mute." I do that all the time, but anyway what we are going to be doing here tonight, from Commonwealth Environmental Services inception, uh, we have been preparing waste

packages, excuse me, I call them waste packages but they are really employee packages for nuclear workers that have become ill and died. Now I would disagree with Don (Dihel) but he can don't answer me so you can write a letter to me if you like or email, which by the way, the emails for the Board, are top secret apparently and we don't believe the public needs to see that. Now I'm sure that Mike (Kemp) would agree since he's a Murray State University employee and Bill Murphy here, there's nobody on this Board that doesn't want to disclose their email, right? Or is there? If you don't want us to know, then tell us. I'll take your silence that you don't mind, Mr. Drossos. Because you are here for the Paducah citizens. Now I'm not an attorney. I'm just a darn good attorney in fact. Not a consultant. I'm a design engineer for the U landfill and we couldn't get a permit from the State of Kentucky. And I not talking about Brian (Begley), I'm talking about the big boys up there that I've dealt with for all my life. But we had to get a landfill end study done. And I'm sorry Don (Dihel) to rain on your parade, who was the man that was authorizing the radioactive waste going into the landfill that I operated and managed, and designed by the way. That's my design. You know, no help from the crowd. Do you know who your DOE counterpart was? No. So let me tell all the public, I've got a sheriff's deputy back here, but this is all public comment. It was James Mitchell Hicks. And we worked together to make sure every package of the landfill met the landfill limits authorized limits that John Volpe approved. But John Volpe wasn't a very good happy camper back then because he didn't think we ought to put radioactive waste in a landfill above certain limits. But then came the authorized limits Don (Dihel), and I'll tell you a few things and then you can educate me because I know the top people. I know the people that wrote it. And I got their study. So this group is not going to come in and start billing the taxpayers for extra work that we've already done for Lockheed. And that's a President Award achievement. I've got two of them. And so the authorized limits for all of you that don't want to listen... What I'm telling you is, there should never be one minute limit. This Board has been, you came in late. Go back and look at the ten years back. Retaliation against people in Paducah, Don Seaborg was the one that stood up against everybody. So I'm going to use this record to point out that all those ditches that you're trying to take down, they're already identified in the Paducah Sun. I'm the one that caught it. We were trying to dispose of it but it was too radioactive and now you're hearing that the ditch signs are going to be taken down. Amazing. Jennifer (Woodard), you ought to be ashamed because you and Jimmy Massey you know wouldn't tolerate it. And we're not going to tolerate it now Buz (Smith). So run that up your flagpole but we've already got it all documented so it is radioactive. It is radioactive but I'd love to adlib something but we've got our point through. And I'm back to the nuclear workers where people say there is nothing in those ditches, but I've got an uncle that died from going into one of the ditches where you are going to take the signs down. That's it.

Final Comments

Barger said that since the CAB did not have a quorum, she asked that the Board members that were present to hold on to and review the two national Chairs recommendations that were supposed to be voted on this evening and they would be considered during next month's meeting.

Murphy asked when the next EM SSAB Chairs meeting was. **Roberts** indicated that it would be held in Hanford, WA, on October 17-19.

Barger adjourned the meeting at 6:57 pm.

Approved by **Renie Barger**, Chair

A handwritten signature in cursive script that reads "Renie Barger". The signature is written in black ink and is positioned above a horizontal line.

Renie Barger

ENVIRONMENTAL MANAGEMENT SITE-SPECIFIC ADVISORY BOARD

Hanford Idaho Nevada Northern New Mexico
Oak Ridge Paducah Portsmouth Savannah River

Draft Recommendation by EM SSAB Chairs
May 11, 2017

Recommendation: Cleanup Performance Road Map and Communication Strategy

The EM SSAB Chairs have been tasked with the development of a recommendation addressing DOE-EM's need to define communication and performance metrics that better identify project accomplishments, risks and challenges associated with cleanup activities to the public.

DOE-EM should revise metrics so the public can better understand the status of cleanup projects across the complex in the near-term. The intent is to quantify and build transparency into the status of specific projects as they move along the continuum of meeting agreements and legally binding dates for cleanup completion.

DOE-EM should utilize existing resources and simple, visual examples within the Department and other U.S. government agencies (e.g., U.S. Geological Survey, National Oceanic and Atmospheric Administration). DOE-EM should include DOE-EM complex-wide and individual site matrices information and success data.

There needs to be two clearly-described visual road maps:

- 1) A visual road map that depicts each site's schedule and key milestones
- 2) A visual road map that depicts DOE-EM's key milestones in totality.

As a complex-wide communication metric, we recommend DOE-EM identify successfully completed projects as benchmarks (e.g., Fernald and Rocky Flats cleanup sites) when developing performance metrics for similar remediation projects. These metrics might help the public to better understand the project lifecycles and the application of performance metrics used to measure successful project completion.

DOE-EM should communicate crucial, high level performance indicators that clearly show if schedules are being compromised. We suggest removing Safeguards and Securities and hotel costs from the budget bundle and giving them their own line items to clearly identify significant costs that are not actual cleanup actions.

DOE-EM should identify key project assumptions and project risks that are crucial to each individual project and the complex-wide schedule. DOE-EM should clearly identifying the challenges acknowledges realities that should be reflected. It can set up a healthy dynamic for DOE-EM to

demonstrate and communicate that it understands and acknowledges the difficulties inherent to these complex cleanup missions.

Advisory boards at each site are tasked with providing project priorities on an annual basis. However, this tool allows stakeholders to see the DOE-EM mission in totality, provides a high-level overview of each project and allows advisory boards to have a more comprehensive view of DOE-EM's work.

ENVIRONMENTAL MANAGEMENT SITE-SPECIFIC ADVISORY BOARD

Hanford Idaho Nevada Northern New Mexico
Oak Ridge Paducah Portsmouth Savannah River

Draft Recommendation by EM SSAB Chairs
May 11, 2017

Recommendation: Above Ground Storage at the Waste Isolation Pilot Project

Background:

A key component to successfully reducing risks to human health and the environment from legacy Transuranic Waste (TRU) located throughout the DOE-EM Complex is the ability to achieve final disposition in the Waste Isolation Pilot Plant (WIPP), located near Carlsbad, New Mexico. With the re-licensing of the WIPP site, we now see the extension of its operation for decades into the future. We champion the potential for expansion of the retrieve/treat/dispose efforts of the TRU program.

In past years, as individual sites queued up for removal, treatment and disposal of their respective TRU inventories, we saw a bottleneck in WIPP operations and TRU remediation efforts due to current capacity limits at WIPP for temporarily staging TRU drums in above ground, surface storage.

Maintenance shutdowns, lack of proximity of DOE-EM sites to the WIPP facility and inclement weather disrupting transportation all have impacted the efficiency of the WIPP program to meet its mandates. Concurrently, at individual sites, we have seen the extension of mortgage costs as sites package and then wait for shipping and disposition. In fact, multiple sites currently have a backlog of drums ready for shipment.

The EM SSAB Chairs believe that DOE's submittal of a modification to its Class 3 Hazardous Waste Disposal Permit with the New Mexico Department (NMED), proposing the construction of an above-ground storage facility at the WIPP site has the potential to be the right answer for addressing the current inefficiencies in operations.

The above ground storage facility proposed by WIPP has the potential to make the TRU waste disposal process more efficient. The permit modification submitted to the NMED contains a quite detailed description of this proposed addition to the WIPP facility. It is a fairly straightforward construction project and there is little reason to doubt, that if constructed to the proposed specifications, it would be capable of temporarily storing a large quantity of TRU waste. However, the permit modification provides no information on the cost of this facility, or the expected benefits to be derived from either in terms of the more efficient operation of the WIPP facility, or the reduction in risk around the DOE complex from the more efficient operations of WIPP and the TRU waste disposal process.

Recommendation:

- 1) The EM SSAB recommends seeking further efficiencies in the WIPP TRU program in order to streamline, expand and accelerate TRU waste disposition.
- 2) The EM SSAB recommends that DOE prepare for public review, information on the expected benefits and costs of this proposed addition to the WIPP facility in terms of more efficient operation of WIPP, an overall reduction of risk around the DOE complex from an increased rate of disposal of TRU waste, and the impact of the cost of this facility on other DOE facilities. Allowing nearly a one-year buffer of TRU waste inventory to be safely stored above ground at WIPP for a period of up to one year, seems to makes sense.



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

U.S. Department of Energy Paducah Site

**Authorized Limits for the
Paducah Gaseous Diffusion Plant
Wildlife Management Area**

Don Dihel, DOE-PPPO Health Physicist

July 20, 2017

Authorized Limits - Defined

- The U.S. Department of Energy (DOE) Order 458.1, “Radiation Protection of the Public and the Environment”;
 - Authorized limits are defined as:

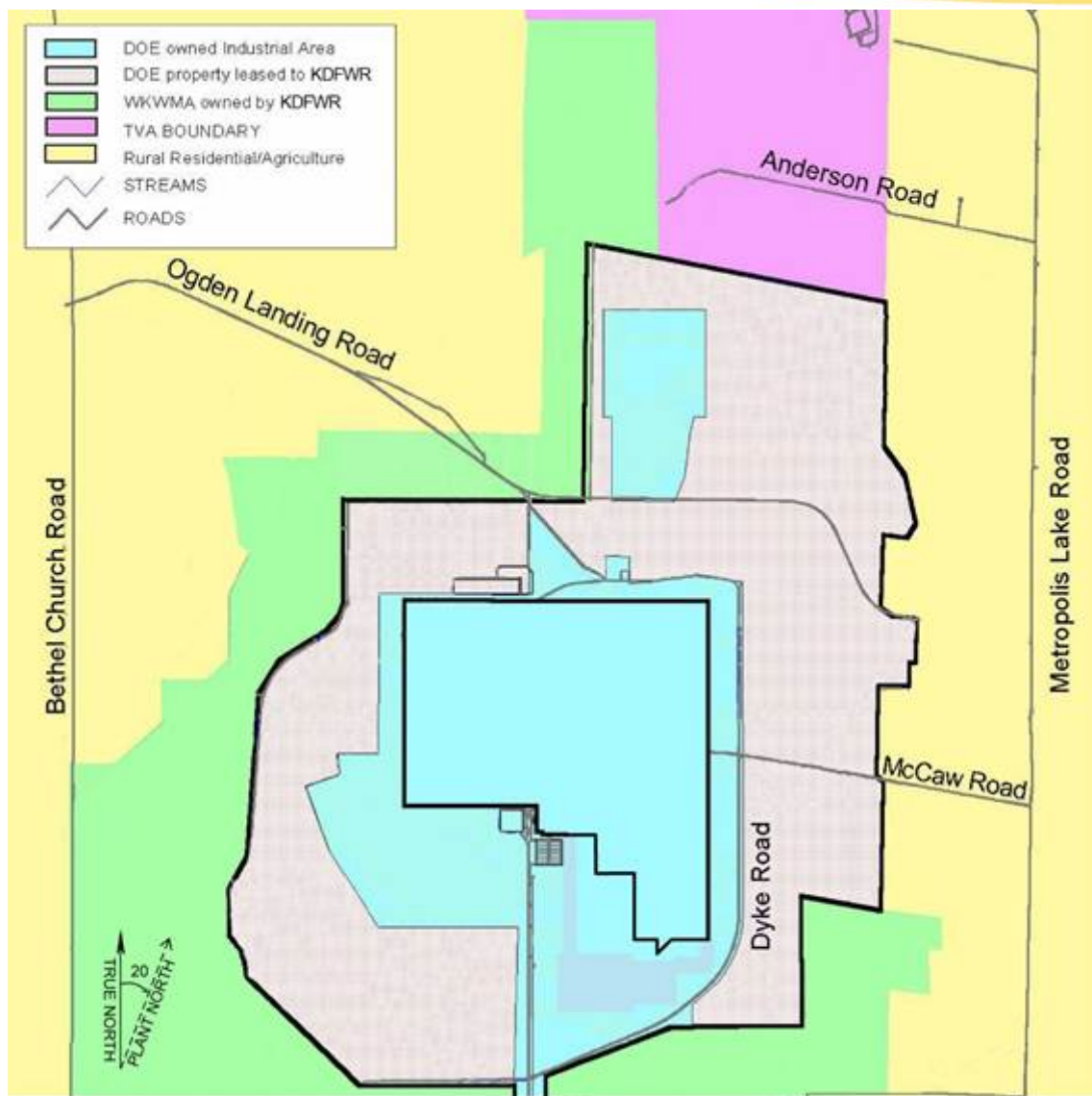
“A limit on the concentration or quantity of residual radioactive material on the surfaces or within property that has been derived consistent with DOE directives including the As Low As Reasonably Achievable (ALARA) process requirements. An authorized limit may also include conditions or measures that limit or control the disposition of property.”

Authorized Limits - Defined

- Authorized Limits apply to radioactive material on or within material, equipment, and property which is approved for release by the Portsmouth/Paducah Project Office (PPPO).
- Authorized Limits provide a scientific, objective, and defensible basis for decision making.
- These Authorized Limits are applicable to all DOE-Owned Property outside the limited area.

Wildlife Area Characteristics

- The Paducah Gaseous Diffusion Plant (PGDP) is situated on 3,556 acres, 748 acres of which comprise the limited area.
- Total area outside the PGDP limited area is approximately 2,676 acres.
- Of the 2,676 acres, 1,986 acres are leased to the Commonwealth of Kentucky Department of Fish and Wildlife Resources.
- West Kentucky Wildlife Management Area (WKWMA) is a regional outdoor recreational area used by more than 10,000 people each year.



Historical Background

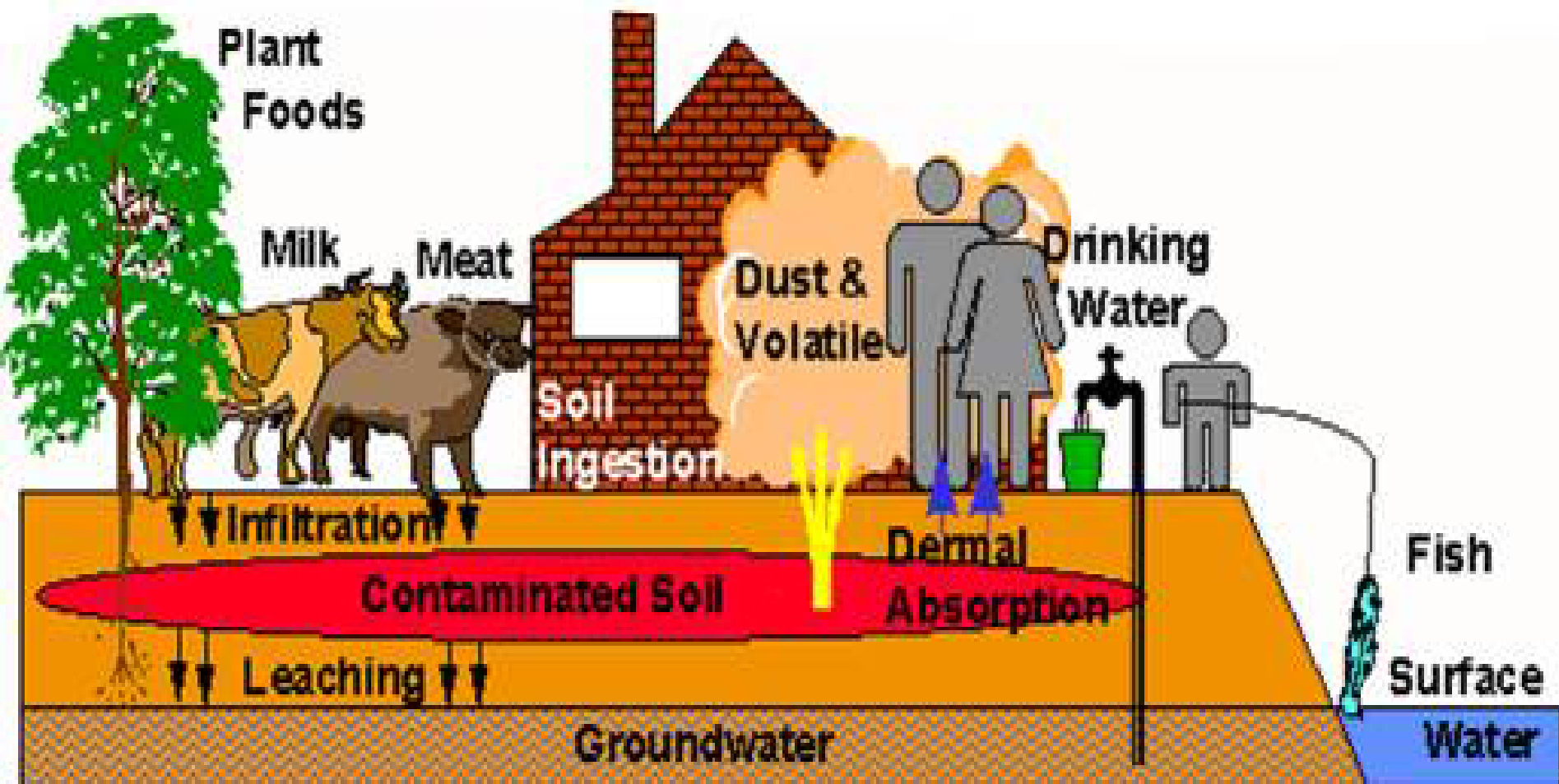
- Areas were posted according to 10 Code of Federal Regulations (CFR) 835 limits in the 1990s due to the lack of Authorized Limits at that time.
- Since the 1990s, ongoing radiological surveys of the Waste Management Area indicated residual radioactive materials present in:
 - soils and other environmental media
 - rubble and construction debris:
 - concrete
 - metal slabs
 - pipe
 - sheeting
 - other construction related debris used in culverts, as coverings, and for erosion control
- Current air, water, and soils monitoring results indicate there has been no additional environmental contamination of the property.



Authorized Limit Evaluation

- In September 2012, the Oak Ridge Institute for Science and Education (ORISE), a nationally recognized expert in radiation protection, was contracted to perform dose modeling allowing PPPO to propose Authorized Limits.
- ORISE used the latest versions of Residual Radioactive Material Guidelines (RESRAD) and RESRAD-OFFSITE to model exposure pathways.
- RESRAD and RESRAD-Offsite are used nationally [by the U.S. Environmental Protection Agency (EPA), U.S. Nuclear Regulatory Commission, and other government agencies]. ORISE identified and evaluated three exposure bounding scenarios:
 - Resident Farmer
 - Recreational User
 - Wildlife Worker

RESRAD Exposure Pathways



Authorized Limit Development and Approval

- Contributors and reviewers:
 - Dr. Richard Bonczek, DOE-PPPO Risk Manager
 - Don Dihel, DOE-PPPO Health Physicist
 - Tom Hines, DOE-PPPO Nuclear Safety Lead
 - Orville Cypret, Certified Health Physicist
 - Dr. John Volpe, Retired Manager, KY Radiation Health and Toxic Agents Branch
 - Tom Hansen, Certified Health Physicist
- DOE Headquarters Department of Health, Safety, and Security performed an independent review.
- The Authorized Limits were approved by the PPPO manager in consultation with the DOE Chief Health, Safety, and Security Officer.

Implementing the Authorized Limits

- The process for removal of radiological signs:
 - Fluor Federal Services, Inc., the DOE deactivation & remediation contractor, will review existing data on posted areas or gather new survey data as necessary to determine if the area can be down posted based on the approved Authorized Limits.
 - The data used for down-posting shall be submitted to DOE prior to down posting and the down posting performed after obtaining DOE concurrence.
 - The decision for removing the signs shall be in accordance with DOE Order 458.1 using the Multi-Agency Radiation Survey and Site Investigation Manual process.
 - Sign removal only affects radiological signs posted in the WKWMA in accordance with 10 CFR 835. FFA signs required by Comprehensive Environmental Response, Compensation, and Liability Act or Resource Conservation and Recovery Act will remain in place.

Implementing the Authorized Limits



Relative Doses From Radiation Sources

Millirem Doses

