



DEPARTMENT OF THE AIR FORCE

20th FIGHTER WING (ACC)  
SHAW AIR FORCE BASE SOUTH CAROLINA

X *Robin Mills*

Robin Mills  
Deputy MSG

MEMORANDUM FOR RESTORATION ADVISORY BOARD MEMBERS

FROM: 20 CES/CEIE

SUBJECT: Restoration Advisory Board (RAB) Meeting Minutes

Meeting information:

- a. Date: 26 April 2021
- b. Time: 1830
- c. Location: Due to COVID-19, held virtually through Microsoft Teams
- d. Air Force Co-Chairman: Ms. Robin Mills, 20 MSG/DD
- e. RAB Members/Alternates and Others in Attendance

City/County Officials

Mr. Eddie Newman, County Representative (Not Present)  
Ms. Helen Roodman, Sumter City-Country Planning (Not Present)

South Carolina Department of Health and Environmental Control (SCDHEC)

Mr. Michael Danielsen, SCDHEC, Columbia Office  
Ms. Gabby Munn, SCDHEC, Columbia Office  
Mr. Keith Lane, SCDHEC Region 4, Sumter Office (Not Present)

RAB Community Members

Mr. Daniel Burkett (RAB Community Co-Chair) (Not Present)  
Mr. Chip Chase (Not Present; Resigned)  
Mr. Charles Firmbach (Not Present)  
Mr. John Hayes (Not Present)  
Mr. Tony Horton (Not Present)  
Rev. Willie Lawson  
Mr. Heath Hoover (Not Present)  
Mr. Steven Schmidt (Not Present)

Ms. Amanda Skelton (Not Present)

Community Members

Ms. Paula Birkbeck  
Ms. Ruth Gamble-Braboy  
Ms. Susan Brown  
Ms. Dee Hoehn

Others, SCDHEC Affiliated

Ms. Stacey French, SCDHEC, Columbia Office  
Mr. Kent Krieg, SCDHEC, Columbia Office

Others, Air Force Affiliated

Mr. Timothy Murphy, 20 FW/JA  
Ms. Lisa Allen, 20 FW/PA  
Lt. Col. James Merriman, 169 MDG/SGPB (McEntire Joint National Guard Base)  
SMSgt Carissa Justiniano, 20 MDG/SGPB  
TSgt Sarah Filbin, 20 MDG/SGPB  
Mr. Nick Muszynski, 20 CES/CEI  
Mr. Wendell Williams, 20 CES/CEIE  
Ms. Anna Butler, USACE-Savannah  
Dr. Hunter Anderson, AFCEC/CZTE  
Mr. Juvenal Salomon, AFCEC/CZOE  
Mr. Gary Fields, AFCEC/CZOE  
Mr. Josh Miller, Bay West  
Mr. Jessica Malone, Bay West  
Mr. Mark Fisherkeller, Arcadis  
Ms. Leigh-Ann Fabianke, Galen Driscol  
Mr. Tim Sueltenfuss, Galen Driscol

**1. Welcome**

Mr. Tim Sueltenfuss of Galen Driscol, served as the meeting facilitator and commenced the meeting. Mr. Sueltenfuss introduced Ms. Robin Mills, the Air Force RAB Co-chair. Ms. Mills welcomed and thanked everyone for participating. She mentioned that Shaw AFB won a Department of Defense (DoD) award for Environmental Restoration and thanked the Shaw AFB team for their hard work and for organizing the RAB meeting. Ms. Mills mentioned that Shaw AFB has made significant progress in the environmental restoration process and that the RAB meeting is to share information about that progress and hear from the community.

**2. Introductions**

Mr. Sueltenfuss introduced Mr. Juv Salomon, the Shaw Restoration Program Manager. Attendees then introduced themselves.

**3. Stakeholder/RAB Member Updates**

There were no stakeholders that wanted to provide updates.

#### 4. Air Force Update: Optimized Remediation Contract (ORC)

Mr. Juv Salomon explained the purpose of the RAB is to promote community awareness and community review on current and proposed environmental cleanup. The RAB mission is to provide open and interactive dialogue among stakeholders. Mr. Salomon explained there will be two technical briefings during the meeting. One focused on the newly awarded Optimized Remediation Contract (ORC), which falls under the state's authority and the Resource Conservation and Recovery Act (RCRA) permitting program. The other will focus on Aqueous Film Forming Foam (AFFF) and perfluorooctane sulfonate (PFOS)/perfluorooctanoic acid (PFOA) activities, which fall under the Comprehensive Environmental Response, Compensation, and Liability Act authority (CERCLA) or what is also known as Superfund.

Mr. Josh Miller, Bay West contractor, is the ORC program manager. An ORC is similar to the previous performance-based remediation (PBR) contract, with SCDHEC helping with the draft ORC scope of work. The ORC includes 18 sites total: 15 Installation Restoration Program (IRP) sites and three Defense Logistics Agency (DLA) sites. There are two underground storage tank (UST) sites also included. A complete site list is included on Slide 8 of the meeting presentation and a site overview map is on Slide 9. The ORC began in August 2020 and will end in August 2026. Contract goals include advanced site characterization at four sites, remedial action-operation (RA-O) at 11 sites and long-term management (LTM) at three sites.

Advanced characterization will help the Air Force more fully understand the site, evaluate alternative objectives, and determine what actions to take to finalize a remedy. There are four sites with ongoing RA-O, which includes the Groundwater Treatment Plant (GWTP), in situ chemical oxidation (ISCO), LTM and land use controls (LTM):

- OT016B (AOC F)
- SS015 (OU-1/SWMU 2)
- SS035 (SD029/AOC L)
- SS036 (AOC N)

Advanced site characterization will also include supplemental site inspections (SIs) and high-resolution site characterization (HRSC). Follow-up from the SIs and HRSC will include remedial evaluation and recommendations reports, updated decision documents as necessary based on findings, and corrective measures implementation work plans. The GWTP has historically treated TCE contaminated groundwater pumped from sites AOC F, SD029/AOC H/AOC L and AOC N. A modification to the GWTP was completed in October 2020 as part of a time critical removal action (TCRA). The modification augments the existing plant with an ion exchange resin system, which treats up to 1,500 gallons per minute of extracted water impacted with PFOS/PFOA above the US EPA lifetime health advisory (LHA) of 70 parts per trillion (ppt). A phased restart of the GWTP, supervised by SCDHEC, was completed in February 2021 and the system is now working as designed.

There are nine RA-O sites with injection systems installed by the previous PBR contractor as corrective measures, which are listed on Slide 14 of the meeting presentation. Sites in blue text indicate response complete (RC) as the ORC objective, sites in green indicate site closeout

(SC) as the ORC objective and sites in black will continue operation but will not achieve either goal in six years. There are two RA-O sites without treatment systems: DP039 (AOC 32/SWMU 101) and OT016A (SWMU 78). There are three landfill sites, LF003 (SWMU 58), LF008 (SWMU 85) and LF009 (SWMU 52), where Land Use Controls (LUCs) and landfill cover maintenance will be conducted throughout the duration of the ORC.

#### 5. **Air Force Update: AFFF Update**

PFOS/PFOA are synthetic fluorinated organic compounds used in many industrial and consumer products, including nonstick cookware, waterproof fabric, some food packaging, and the firefighting agent AFFF. AFFF has been used by the Air Force, and other commercial entities, from the 1970s until the late-2010s. In May 2016, EPA issued a LHA for PFOS/PFOA (combined) of 70 ppt. To put into perspective, one ppt is a fraction of one drop of water into an Olympic-sized swimming pool. The Air Force is responding to PFOS/PFOA because they have reasonable pathways to reach drinking water sources, they present a potential unacceptable risk to human health and regulatory standards are evolving. The Air Force is taking aggressive action to address potential impacts to drinking water that may be attributable to firefighting missions. In June 2009, the DoD established policy and assigned responsibilities for the identification, assessment and risk management of emerging contaminants such as PFOS/PFOA. In 2010, the Air Force Civil Engineering Center (AFCEC) began a comprehensive assessment that determined AFFF may have been released at active, reserve, Air National Guard and closed bases, fire training areas, emergency response and aircraft crash sites as well as other release areas.

The Air Force's investigation work and mitigation actions for PFOS/PFOA are guided by CERCLA, the Defense Environmental Restoration Program statute (DERP) and EPA's drinking water LHA of 70 ppt. The CERCLA process ensures thorough investigation work of actual or threatened releases, and promotes accountability, community involvement and long-term protectiveness. The Air Force is using a three-step approach to assess the potential for PFOS/PFOA contamination of drinking water and will respond appropriately:

1. **Identify:** Determine potential AFFF releases, verify releases through sampling and determine if contaminant pathways to drinking water exist.
2. **Respond:** Continue to provide clear communication. If the contaminant is found above the LHA and there is a clear pathway to drinking water, the Air Force will provide an alternative drinking water supply (bottled water). If the contaminant is detected below the LHA a monitoring/sampling schedule will be established and further action will be taken if contamination rises above the LHA.
3. **Prevent:** The Air Force has properly disposed of all legacy AFFF through incineration at authorized disposal facilities and transitioned to a more environmentally responsible AFFF formulation. Fire vehicles are being retrofit with an ecologic system that prevents foam discharge during equipment testing.

The "Identify" phase includes conducting a Preliminary Assessment (PA), which is a base-wide records review and includes interviews of base personnel to identify fire training areas, crash sites and other areas at the installation where AFFF may have been released. A Site Inspection (SI) follows, where sampling of groundwater, surface water, soil and sediment is conducted to verify and identify potential pathways to drinking water. If sampling indicates a

potential pathway to drinking water supplies, AFCEC expands the sampling area and may test public water systems and private wells. Once the SI is complete, AFCEC determines if the investigation provided enough data to fully map and understand potential impacts to drinking water or if further investigation is needed. The green checks on the meeting slides indicate that an action is complete; the Shaw PAs and SIs are completed. The blue arrow indicates the Remedial Investigation (RI) phase has started. One RI challenge is that cleanup standards for PFOS/PFOA have not been established so, the Air Force cannot move forward with a risk assessment.

During the “Respond” phase, if AFCEC determines PFOS/PFOA levels exceed the LHA in drinking water, the Air Force will take measures to reduce risk and, if needed, provide an alternate drinking water source, like bottled water, until a permanent solution is in place. There are three mobile home parks located directly to the south that border the base. In partnership with SCDHEC, wells at the parks were tested since they draw water from private wells. The Air Force is now supplying bottled water to these parks. For the “Prevent” phase, the Air Force has eliminated all legacy AFFF at Shaw and replaced it with a more environmentally responsible formulation. Fire vehicles have also been retrofitted with an ecologic system that prevents foam discharge during equipment testing.

Regarding additional Shaw updates, the PA was completed in 2016, where 11 areas were assessed (record reviews, interviews, and field visits). The PA identified six AFFF areas to move forward to the SI for field sampling. All six areas are inside the base boundary. The SI included taking groundwater samples from all six areas, which exceeded the LHA. The SI identified potential impacts to human health and the presence of drinking water supply wells within four miles down gradient of each area. The SI recommended moving forward with an Expanded SI, which included additional step-out sampling for all six areas, followed by an RI to delineate the extent of impact. Sampling for the expanded SI occurred in March 2020, and a report is currently being finalized and will be sent to SCDHEC soon for review.

Shaw is one of first bases in Air Force to begin the RI phase. As part of Phase 1, a four-year contract has been awarded to start delineating the extent of PFOS/PFOA impacts. The Air Force is anticipating that PFOS/PFOA regulatory standards will be established in the near future, so the RI can continue to Phase 2 to assess human health and ecological risks. So far, investigations have found that there are no impacts to the municipal water system around Shaw AFB. High Hills Rural Water Company is the primary drinking water provider. Samples collected were non-detect. The City of Sumter Water Department also provides drinking water to households within the focus area. Samples were non-detect. Shaw AFB produces its own drinking water with base wells. Air Force bioenvironmental engineers regularly monitor/sample the base’s drinking water source. Notification letters will be sent to the identified drinking water well owners within the focus areas to the east, west and south of the base requesting permission to sample if private drinking water wells are present. The Air Force is working closely with SCDHEC to identify any private wells. Slide 32 of the meeting presentation shows the off-base sampling focus area in yellow. More than 200 drinking water wells have been sampled in the sampling focus area.

Currently, the Air Force is in the process of completing off-base, door-to-door surveys requesting well information and permission to sample. With owners’ consent, privately owned

wells used for human drinking water are being tested to determine if PFOS/PFOA is above the LHA. As mentioned earlier, the GWTP is treating PFOS/PFOA contaminated water on base, which is being reinjected up gradient of the base drinking water wells. The Air Force also provides bottled water to households and businesses with drinking water wells containing PFOS/PFOA above the LHA. Wells under the LHA, but above 35 ppt, are being sampled quarterly for one year to ensure results do not climb above the LHA. Future actions include seeking permanent solutions for water supplies for households and businesses currently provided with bottled water. Permanent solutions could include on-site water filtration systems and connection to municipal water services. These actions either already have funding allocated or are going through contract solutions. Fieldwork for the Phase 1 RI will begin in summer/fall 2021 at both on and off-base locations. Public participation will continue to address Shaw AFB's previous, current and planned PFOS/PFOA response actions.

Ms. Dee Hoehn stated that she owns 56 acres around Shaw AFB including 14 acres that are adjacent to the Shaw AFB boundary and currently houses 17 tenants. Since she last spoke with the Air Force in 2019, there has been a significant amount of runoff water from Shaw property that enters a pond on her property. Ms. Hoehn's water well is 20-feet from the base fence and is surrounded by Shaw on three sides. She invited the Air Force to visit her property to discuss the run-off situation in more detail. This pond runs into Long Branch Creek. Mr. Salomon mentioned that as part of the RI, soil, groundwater, and surface water will all be investigated. The RI will be the best tool to capture any surface water concerns. Ms. Hoehn mentioned that every year she sends her residents a copy of the water quality report, but the copy she has does not currently address PFOS/PFOA. She requested documentation to show her residents that the water they are consuming from High Hills, is under the PFOS/PFOA LHA. An action item was recorded for Mr. Salomon to send Ms. Hoehn a SCDHEC Bureau of Water report that shows High Hills water has been tested for PFOS/PFOA and results were non-detect. SCDHEC said that UCMR3 testing data will also demonstrate this.

#### **6. RAB Business Update**

Board member participation has waned over the years. There are currently only eight community RAB members. If anyone is interested in becoming a member or know of anyone interested, please put them in contact with Mr. Salomon. Interested parties can apply to Mr. Salomon who will pass their application to the current RAB members for approval. It was noted that Mr. Chip Chase submitted his board resignation prior to this RAB meeting.

#### **7. Public Comment**

Ms. Ruth Gamble-Braboy mentioned that she is concerned about an embankment near the entrance to the Wintergreen subdivision II, which is located off Oleander Drive near Veteran's Park. The area is overgrown and is not safe for homeowners. Although it is believed that the area may be owned by the City of Sumter, an action item was recorded to further investigate the issue.

#### **8. Conclusion**

Reverend Lawson thanked the Air Force for a great informational session and shared he is not surprised to hear Mr. Salomon and team won an award for their work. He expressed thanks to Shaw AFB for answering the call to ensure folks in the community are taken care of.

Mr. Salomon shared that if anyone has additional questions, please contact him. He also highlighted that Slide 40 of the meeting presentation contains additional points of contact and references. Mr. Salomon said that hopefully everyone can meet in-person for the next annual RAB meeting. A newsletter will be mailed before the next meeting and will include RAB recruitment information.

Ms. Mills thanked everyone for their interest in Shaw’s environmental program and for joining the RAB meeting. She shared her appreciation for working with such a great Air Force team and that she is proud to be part of the Shaw community.

The next RAB meeting will be scheduled for April 2022, with an exact date being confirmed later this year. Questions regarding the RAB may be directed to Mr. Juv Salomon at (803) 895-9991 or [juvenal.salomon.1@us.af.mil](mailto:juvenal.salomon.1@us.af.mil).

#	Action Item	Who	Status
1.	Dee Hoehn will follow-up with Air Force to invite them to visit her property again to discuss runoff into her pond. (she is at the property every Tuesday)	Dee Hoehn, Community Member	Open
2.	Juv Salomon will send Dee Hoehn a water report showing High Hills water is non-detect for PFOS/PFOA.	Juv Salomon, Shaw AFB	CLOSED
3.	RAB recruitment information will be included in the next community newsletter.	Juv Salomon, Shaw AFB	Open
4.	The Air Force will investigate Ms. Ruth Gamble-Braboy’s concerns about the embankment near the entrance to the Wintergreen Subdivision II, which is off Oleander Drive near Veteran’s Park. The area is overgrown and is not safe for homeowners. It is believed that the area may be owned by the City of Sumter.	Juv Salomon, Shaw AFB	CLOSED

  
 JUVENAL Q. SALOMON, GS-13, DAF  
 RAB Administrator

Approved as written

  
 ROBIN D. MILLS, GS-14, DAF  
 Deputy Director for Installation Support

Attachment:  
RAB Presentation

cc:

20 FW/CV/JA/PA/HO

20 MSG/CC/DD

20 MDG/SGPB

20 CES/CC/CEI/CEIE

AFCEC/CZOE

AFCEC/CZRE (Mr. Anthony Williams)

US Army Corps of Engineers (Ms. Anna Butler)

SCDHEC (Mr. Michael Danielsen, Mr. Keith Lane)

Sumter County Public Works Director (Mr. Eddie Newman)

Sumter City Engineer (Mr. Bill Rozier)

Sumter City-County Planning (Ms. Helen Roodman)

RAB Community Members: Mr. Daniel Burkett, Mr. Chip Chase, Mr. Charles Firmbach, Mr. John Hayes, Mr. Heath Hoover, Mr. Anthony Horton, Rev. Willie Lawson, Mr. Steven Schmidt, Ms.

Amanda Skelton

# Air Force Civil Engineer Center

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## Shaw AFB Restoration Advisory Board

26 April 2021



# Virtual Participation Reminders

- Mute/unmute with the microphone icon at top of screen. Mute your computer or phone when not speaking.
- Turn on/off camera with the camera icon.
- State your name before you begin talking.
- If you have a question, use the hand icon at top of screen. You can also type your question in the chat by using the word bubble icon next to the hand.
- To enable closed captions, click the three dots, then select, “Turn on live captions”.



# Agenda



- **Welcome / Introductions**
- **Purpose / Mission**
- **Shaw Environmental Restoration Program (ERP) Update:**
  - **Optimized Remediation Contract (ORC)**
- **Shaw AFFF (PFOS/PFOA) Update**
- **Break**
- **Public Comment**
- **Conclusion**



# RAB Purpose/Mission

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## **PURPOSE:**

- **Promote community awareness**
- **Obtain constructive community review and input on current and proposed environmental cleanup actions**

## **MISSION:**

- **Open and interactive dialogue**
  - Among the Air Force, South Carolina Department of Health and Environmental Control, and our neighbors
  - Concerning Shaw's Environmental Restoration Program



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# Shaw Optimized Remediation Contract (ORC)

**Environmental Remediation and Site Restoration Activities**



# ORC Overview

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- **What is an ORC contract?**
  - In short, an ORC contract is like a Performance-Based Remediation (PBR) contract but incorporates PBR lessons learned
  - The most important shift is that PBR lessons learned help craft the ORC Performance Objectives (PO) vs. contractor
- **Environmental Remediation and Site Restoration Activities**
  - 15 Installation Restoration Program (IRP) sites and
  - 3 Defense Logistics Agency (DLA) sites
  - 18 total sites
    - 2 are Underground Storage Tank (UST) sites - 1 IRP, 1 DLA



# ORC Overview



Continued

SCDHEC ID #	Air Force ID #	SITE DESCRIPTION
AOC D (& AOC W)	OT016C	Lang Syne Investigation (TCE GW Contamination)
AOC F	OT016B	TCE Groundwater Contamination (Off-Base UBC, TCE & PCE)
AOC H	SS035	Chlorinated Solvent Groundwater Contamination (Duplin & UBC, B1205 area)
AOC M	ST030	Bldg 1613 - Leaking Fuel Line [GWPD#A-43-AA-01679] [BUSTM #01679]
AOC N	SS036	Aircraft Parking Apron – North End
AOC O	CG038	Shallow Lang Syne Contamination (near Hobby Shop and Off-Base)
SWMU 2	SS015	Former Leaking JP-4 USTs [GWPD#A-43-AA-14072] [BUSTM #14072]
SWMU 52	LF009	Former Landfill #1
SWMU 58	LF003	Former Landfill #3
SWMU 59	FT001	Former Fire Training Area #1
SWMU 78	OT016A	Bldg 325 Vehicle Maintenance Area (was DRO in soils/now dieldrin in shallow GW)
SWMU 85	LF008	Former Landfill #2
SWMU 87	ST018	Former Waste Oil USTs (2) (Bldg 1602) [GWPD#A-43-AA-13693] [BUSTM #08687]
SWMU 96	SD033	Building 1602 O/W Separator (Trap)
SWMU 98	DLA – B1200	Building 1200 Hydrant Fuel Line (GWPD No. 10501)
SWMU 99	DLA – B1610/1612	B1610 Fuel Line Leak (GWPD No. 01289); B1612 Former Pump Stn #4 (GWPD #16668)
SWMU 100	DLA – B326	Building 326 – Former USTs – UST Permit #08686
SWMU 101	DP039	Former Waste Pits near (and overlapping with) SWMU 59

AOC – Area of Concern

SWMU – Solid Waste Management Unit