Questions & Reponses from the 1/23/07 email from Jessie Muir (NRC) to Mike Rodgers (Entergy):

BIRDS:

1. Do you know if the Oswego County Health Dept would have identified and recorded the name and/or species of the birds found?

Entergy Response:
Upon notification, the Oswego County Health Department did not request that the birds be brought to them for identification. The Health Department advised Entergy to simply dispose of the dead birds (because they were non-crow species?). No further action was taken.

2. On the 2006 report, the suggested action item states, "If this is an item that requires monitoring and tracking, personnel at the facility should be made aware of it." Is there a procedure in place to identify birds to determine what species they are, to determine if they are migratory or T&E species? Or is there one being developed as a result of these incidences?

Entergy Response:
Entergy is not aware of any federal or state requirement to monitor and/or track bird deaths related to the operation of the facility. The CR originator was simply stating that if there is a requirement then plant personnel need to be made aware of it. The CR originator assumed there was a requirement to track these incidents because the NRC had asked a question about it relative to License Renewal.

Entergy does not believe these birds were a T&E species and it is unknown if they were migratory or not.

These are two isolated incidents and Entergy will continue to track these in our site Condition Reporting system. If an adverse trend develops then appropriate corrective actions will be enacted. No procedure is being developed at this time.

Based on our previous conversation this morning, our staff has a couple more questions related to the outdoor rifle range.

RANGE:

1. When was the outdoor firing range built? You mentioned the range was built on a 'previously disturbed' site. Do you know what activities had been conducted at that site prior to the construction of the current rifle range? The archaeological study from 1987 states there was a shooting range at JAFNPP but did not indicate a location. Do you know the location of that firing range?

Entergy Response:
The outdoor firing range was constructed in late 2004/early 2005.

The site where the outdoor firing range was built was an open field that had previously supported farming activities. The site had also been used as an artillery range prior to the plant being built.

Regarding the reference to a shooting range in the 1987 archaeological report, there is an indoor shooting (pistols) range east of the JAF plant between the plant and the outdoor range. The indoor range is located along the access road leading to the outdoor range. See attached picture (Indoor-Outdoor Ranges.JPG) which shows the relationship of the indoor range and the outdoor range to the JAF Protected Area.

2. Was the outdoor range built with the SACON blocks? If not, what (if any) mitigative measure were used to reduce soil contamination from lead before the SACON blocks were installed?

Entergy Response:
SACON blocks have been used as the backstop for all firing activities since the original construction of the outdoor range. The SACON blocks are stacked in front of the 30 foot high soil backstop and are used to absorb the arms fired into them. The spent SACON blocks and associated debris have been tested (TCLP) and the results showed that they can be disposed of as non-hazardous waste. See attached memos to file (SACON block-debris memos.PDF) for more information on these waste determinations and for additional information on SACON.

See attached memo to Chuck Barlow (Entergy Environmental Counsel) from Michael D. Rodgers (JAF Sr. Environmental Engineer) (Rifle Range memo with pictures.PDF) with accompanying pictures for a better description of the rifle range.

3. How often is the outdoor range used? Several weeks a quarter, correct?

Entergy Response:
The outdoor range is used by JAF Security personnel for training purposes. It is used approximately 3-4 weeks per trimester or 12-14 weeks per year.

4. Has any testing been done for noise levels? If so, what are the results?

Entergy Response:
JAF Security personnel wear hearing protection while training at the range. No surrounding area noise level testing has been conducted during firing operations because the range is located entirely on Entergy property, well away from the property lines. In addition, there have been no reports of noise related issues off site as a result of firing range operations.

5. What type of information did the zoning committee require?

Entergy Response:
The Town of Scriba Planning Committee asked about three items:

- *Direction of fire: The 30 foot high end berm, in combination with the fact that the range, as built, is over 2 miles away from the Entergy property line essentially eliminated concerns over this issue. During the design phase of the range, it was determined to be more desirable*

to fire away from the lake than towards it to avoid any incidental discharge into the water.

- *Noise concerns: Based on the location of the range (well within our property boundary) this has not been an issue. Additionally, because the range has a 30 foot high end berm and 10-15 foot high side berms the noise generated from range activities is well contained to the immediate area.*
- *Lead control: The range was constructed and is managed in accordance with USEPA guidance EPA-902-B-01-1, Best Management Practices for Lead at Outdoor Shooting Ranges, January 2001.*

The Town of Scriba required construction drawings for the range and they performed a code compliance inspection during construction.

All items/issues were successfully resolved with the Town leading to the construction of the range. Since construction, there have been no issues raised by the Town or any local citizens related to the operation of the range.

6. You stated no permit is required from local or state authorities, correct?

Entergy Response:
There are no local or state requirements to have an operating permit for the range.

7. It is stated in the Environmental Review checklist that the shooting range was built according to EPA BMPs. Is the shooting range managed according to the EPA BMPs? On Page 4 of 7, its mentions attachment 9.1, can you provide that attachment?

Entergy Response:
For Best Management Practices (BMP's) implemented at the outdoor firing range during construction and operation, see memo to Chuck Barlow (Entergy Environmental Counsel) from Michael D. Rodgers (JAF Sr. Environmental Engineer). As a note, a Stormwater Pollution Prevention Plan (SWPPP) was developed and implemented prior to construction of the range to ensure compliance with stormwater regulations. A Notice of Intent (NOI) was not required because the pond did not discharge to waters of the state. This interpretation was confirmed with Mr. Scott Cook (NYSDEC-Region 7).

The attachment requested "On page 4 of 7…" was submitted as Item #85 in the FitzPatrick License Renewal Environmental Site Audit Information Requests submitted to NRC on December 19, 2006. The document referenced consists of 3 pages from former site procedure CHSO-09 (Environmental Impact Review, Attachment 1 and 2), entitled "Firing Range Expansion", dated 6/14/04.

8. Does anyone else use the shooting range (local law enforcement, etc)?

Entergy Response:
No, only JAF personnel use the range.

9. Was the soil tested for anything before it was paved and graded?

Entergy Response:
Prior to range construction some soil borings were collected in this area to determine soil composition only. No other soil testing was conducted.

SETTLING POND:

1. What did you test for lead (water, sediment?) and where (at the paved areas, at the pond)? Did you test for any other metals or constituents besides lead?

Entergy Response:
The water in the second pond compartment of the settling pond was tested in 2005 (0.0068 ppm) and 2006 (ND, detection limit of 0.0050 ppm). Based on knowledge of the process, the only constituent tested for was lead.

There has been no accumulation of sediment in either compartment of the settling pond since operation of the range began. Therefore, no sediment samples have been collected or analyzed. In the future, if sediment deposition allows, a soil sample will be obtained and analyzed for lead content.

2. Is the state aware of your settling pond and where the water comes from and goes? Do you have any communication with the state about the discharge of water from the settling pond into a nearby field and their buy off that it does not need to be included in the SPDES permit?

Entergy Response:
See attached memo to Chuck Barlow (Entergy Environmental Counsel) from Michael D. Rodgers (JAF Sr. Environmental Engineer). This issue was evaluated at the corporate and site level and it was determined that there was no discharge to 'waters of the state' (i.e. the water basically trickles out into a field). Based on input from Chuck Barlow, Legals' review confirmed our interpretation. Therefore, no communication occurred with NYSDEC about the pond.

3. Do you dredge the settling pond? If so, what do you do with the spoils? How often do you dredge the pond?

Entergy Response:
There has been no need to dredge the pond as the range has been in use for less than two years. If a need arises at a later date, all spoils will be properly characterized (hazardous or non-hazardous) in accordance with Entergy Nuclear fleet procedure EN-EV-106 (Waste Management Program) to ensure that the dredge material is disposed of properly.

4. Did the earth excavation for the settling pond and/or range require approval from anyone since wetlands were disturbed?

Entergy Response:
The area of disturbance was confined to non-wetland areas (it was an open field). Therefore, no approval was required.

M. Rodgers

Entergy

April 27, 2005
JCHE-05-015

Interoffice Correspondence

TO: CHUCK BARLOW

FROM: MIKE RODGERS

SUBJECT: JAF RIFLE FIRING RANGE

As part of maintaining onsite security operations, James A. FitzPatrick (JAF) has recently completed the installation of a rifle firing range on the northeastern portion of the JAF property. This range, as seen in Figure 1, is constructed such that ~10 foot high grass covered soil walls surround the area on two sides and lead to a ~30 foot high backstop grass covered soil wall. The area between all walls is paved with asphalt. As seen in Figure 2, large concrete (SACON) blocks are placed at the base of the backstop wall to capture incoming bullets during firing exercises.

Drainage from inside the walled area flows to an outlet pipe (see Figure 3), which then enters a two compartment settling pond (see Figure 4). The purpose of the first pond compartment is to capture any potential lead particulates that may have run off from the firing range area. The purpose of the second pond compartment is to retain water for evaporation and soil percolation.

When the settling pond was initially constructed, there were no plans to provide an outlet since it was assumed that the water retained in the pond would sufficiently evaporate and percolate through the soil. However, evaporation and percolation has not proven to be adequate to ensure that the pond does not fill up and overflow its banks. Therefore, a 24" diameter outlet pipe was installed on the east side of the settling pond (see Figure 5).

On April 18, 2005, an evaluation of the outlet pipe for potential State Pollutant Discharge Elimination System (SPDES) permitting issues was conducted by Rick Buckley and myself. Upon inspection of the outlet pipe, it was determined that settling pond effluent from the pipe would not discharge to any "waters of the state" as defined in 6NYCRR Part 750-1.2(97). As seen in Figure 6, the settling pond effluent will be discharged in a field/wooded area and will not reach any lake, stream or other tributary.

Additionally, the pond effluent was sampled on April5, 2005 and analyzed for lead content (EPA Method 200.7). The result was 0.0068 ppm (see Figure 7).

Therefore, we have concluded that since the effluent discharge from this pipe does not enter "waters of the state" and the field/wooded area is an extension of the settling pond and its function, no SPDES permitting is necessary.

Additionally, during evaluation of the firing range from a Resource Conservation and Recovery Act (RCRA) perspective, we feel that the following best management practices should be implemented at the firing range area to avoid potential lead contamination issues in the future:

- Empty shell casings shall be collected and placed in a properly labeled drum for scrap metal recycling, after each rifle firing exercise.

- Lead slugs identified in the area, specifically at the backstop wall, shall be collected and placed in a properly labeled drum for scrap metal recycling, after each rifle firing exercise.

- Debris and dirt field generated from firing range activities around the concrete blocks at the backstop wall shall be collected and placed in a properly labeled container, and sampled and analyzed for potential lead contamination prior to disposal.

- The concrete blocks containing lead slugs shall be segregated and not used for any other purpose than for firing range activities, unless all slugs are removed from them. To arrange for disposal of the lead contained concrete blocks, contact the Chemistry & Environmental Department.

- The pH of the backstop dirt wall shall be maintained from 6.5 to 8.5 since EPA considers this ideal soil pH for shooting ranges to minimize lead oxidation of any potential lead slugs in the dirt wall itself.

- Sample and analyze the following media for potential lead contamination on an annual basis:

  1. Sediment from first settling pond compartment.

  2. Effluent from the settling pond outlet pipe.

I am requesting that you review our SPDES permitting conclusion and recommended best management practices from a legal perspective and provide a written response of either concurrence or additional actions needed.

If you have questions or need any clarification, please call me at 315-349-6571.

Michael D. Rodgers, P.E.
Environmental Engineer

Attachments

cc: Crystal Boucher
John Loeffert
R. Owen
Rick Buckley
Tom Moskalyk
K. Phy

Figure 7

O'Brien & Gere Laboratories, Inc.

5000 Brittonfield Parkway
East Syracuse, NY 13057 (315) 437-6100

Analytical Results

StateCertNo: 10155

CLIENT:	Entergy Nuclear James A. Fitzpatrick, LLC	**Lab ID:**	0504023-004A
Project:		**Client Sample ID:**	05-11: Firing Range Pond
W Order:	0504023	**Collection Date:**	4/5/2005
Matrix:	WATER	**Date Received:**	4/6/2005
Inst. ID:	ICAP 61E	**Sample Size:** 50 mL	**PrepDate:** 4/8/2005
ColumnID:		**%Moisture:**	**BatchNo:** 329/R612
Revision:	4/13/2005 9:33:38 AM	**TestCode:** 200.7W.3	**FileID:** 2092

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
TOTAL METALS BY ICP			**EPA 200.7**			**(E4.1.3)**
Lead	0.0068		0.0050	mg/L	1	4/12/2005 12:54:00 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

Entergy

Interoffice Correspondence

July 14, 2006
JCHE-06-018

TO: Hazardous Waste Files

FROM: Michael D, Rodgers, PE, REM (MDR)
Sr. Environmental Engineer

SUBJECT: SACON Blocks Waste Status Determination

In June of 2003 JAF Security began using SACON (shock absorbing concrete) blocks as a backstop for firing activities at the on-site indoor pistol range. Since construction of the outdoor rifle range in 2004, SACON blocks have been used as a backstop there as well.

SACON is a low-density, fiber-reinforced, foamed concrete developed by the US Army to be used in the construction of live-fire training facilities. SACON was developed to minimize the hazard of ricochets during training. The shock-absorbing properties of the concrete necessary to reduce ricochets also function to create a medium for capturing small-arms bullets. The low water permeability and high alkalinity of the concrete result in the creation of less soluble lead corrosion products, which reduces the leaching of lead into the surrounding soil.

During range operation the SACON blocks capture the arms fired into them. After a while the center portion of the block erodes and dust from the blocks falls to the ground in front of the block. Eventually, the block erodes enough that it needs to be replaced. JAF Security has roughly estimated that each block absorbs approximately 4,000 rounds before it needs to be replaced.

To ensure proper disposal of these blocks a representative sample was obtained from a collection of spent blocks and analyzed by an off-site laboratory (Life Science Laboratories, Inc, Syracuse, NY). The attached results show a TCLP lead content of 1.2 mg/L which is less than the hazardous waste threshold of 5 mg/L for lead.

Based on the attached lab results, spent SACON blocks can be disposed of by JAF Security as non-hazardous waste. It is my understanding that the block supplier, Northern Concrete, has agreed to take all spent SACON blocks back and recycle them into other concrete products (i.e. jersey barriers). This form of recycling is preferred to straight waste disposal in a landfill.

Please note that the disposal of the dust debris from the spent blocks will be addressed in a separate memo once test results from this waste stream have been received.

Attachment

CC: R. Owen
A. Marks
J. Laplante
R. Buckley

Life Science Laboratories, Inc.

5000 Brittonfield Parkway, Suite 200
East Syracuse, NY 13057 (315) 437-0200

Analytical Results

StateCertNo: 10155

CLIENT:	Entergy Nuclear James A. Fitzpatrick, LLC	**Lab ID:**	**0605140-002A**
Project:		**Client Sample ID:**	*Firing Range Blocks Group A*
W Order:	0605140	**Collection Date:**	05/01/06 13:30
Matrix:	SOLID	**Date Received:**	05/01/06 13:30
Inst. ID:	ICAP 61E	**Sample Size:** 10 mL	**PrepDate:** 05/31/06 12:00 A
ColumnID:		**%Moisture:**	**BatchNo:** 3202/R5587
Revision:	06/01/06 3:07:21 P	**TestCode** TCLPICP	**FileID:** 1-SAMP-23488

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
TCLP METALS BY ICP				**SW6010B**		**(SW3010A)**
Lead	1.2		0.50	mg/L	1	06/01/06 12:07

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value exceeds the instrument calibration range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below the PQL
ND	Not Detected at the Practical Quantitation Limit (PQL)	P	Prim./Conf. column %D or RPD exceeds limit
S	Spike Recovery outside accepted recovery limits		

Print Date: 06/01/06 15:19 **Project Supervisor:** Monika Santucci

Entergy

Interoffice Correspondence

July 31, 2006
JCHE-06-025

TO: HAZARDOUS WASTE FILES

FROM: MICHAEL D, RODGERS, PE, REM MDR
SR. ENVIRONMENTAL ENGINEER

SUBJECT: DEBRIS FROM SPENT SACON BLOCKS WASTE STATUS DETERMINATION

In June of 2003 JAF Security began using SACON (shock absorbing concrete) blocks as a backstop for firing activities at the on-site indoor pistol range. Since construction of the outdoor rifle range in 2004, SACON blocks have been used as a backstop there as well.

SACON is a low-density, fiber-reinforced, foamed concrete developed by the US Army to be used in the construction of live-fire training facilities. SACON was developed to minimize the hazard of ricochets during training. The shock-absorbing properties of the concrete necessary to reduce ricochets also function to create a medium for capturing small-arms bullets. The low water permeability and high alkalinity of the concrete result in the creation of less soluble lead corrosion products, which reduces the leaching of lead into the surrounding soil.

During range operation the SACON blocks capture the arms fired into them. After a while the center portion of the block erodes and dust from the blocks falls to the ground in front of the block. Eventually, the block erodes enough that it needs to be replaced. JAF Security has roughly estimated that each block absorbs approximately 4,000 rounds before it needs to be replaced.

To ensure proper disposal of the dust debris from the spent blocks, representative samples were obtained from the two drums of dust debris and analyzed by an off-site laboratory (Life Science Laboratories, Inc, Syracuse, NY). The attached results show TCLP lead contents of 1.4 and 1.0 mg/L for the two drums, less than the hazardous waste threshold of 5 mg/L for lead.

Based on the attached lab results, all dust debris from spent SACON blocks can be disposed of by JAF Security as non-hazardous waste. It is my understanding that the block supplier, Northern Concrete, has agreed to take all spent SACON block dust debris back and recycle it into other concrete products (i.e. jersey barriers). This form of recycling is preferred to straight waste disposal in a landfill.

See JCHE-06-018 for a previous non-hazardous waste determination for the spent SACON blocks.

Attachments

CC: R. Owen
A. Marks
J. Laplante
R. Buckley

Life Science Laboratories, Inc.
5000 Brittonfield Parkway, Suite 200
East Syracuse, NY 13057 (315) 437-0200

Analytical Results

StateCertNo: 10155

CLIENT:	Entergy Nuclear James A. Fitzpatrick, LLC	**Lab ID:**	**0607003-001A**
Project:		**Client Sample ID:**	*Firing Range 06-PB-DM-1*
W Order:	0607003	**Collection Date:**	06/30/06 13:00
Matrix:	SOLID	**Date Received:**	07/03/06 14:10
Inst. ID:	ICAP 61E	**Sample Size:** 10 mL	**PrepDate:** 07/07/06 12:00 A
ColumnID:		**%Moisture:**	**BatchNo:** 3416/R5952
Revision:	07/14/06 3:48:46 P	**TestCode** TCLPICP	**FileID:** 1-SAMP-27346

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
TCLP METALS BY ICP				**SW6010B**		**(SW3010A)**
Lead	1.4		0.50	mg/L	1	07/11/06 11:22

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND	Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S	Spike Recovery outside accepted recovery limits

Print Date: 07/14/06 15:50 **Project Supervisor:** Monika Santucci

Life Science Laboratories, Inc.
5000 Brittonfield Parkway, Suite 200
East Syracuse, NY 13057 (315) 437-0200

Analytical Results

StateCertNo: 10155

CLIENT:	Entergy Nuclear James A. Fitzpatrick, LLC	**Lab ID:**	**0607003-002A**
Project:		**Client Sample ID:**	*Firing Range 06-PB-DM-2*
W Order:	0607003	**Collection Date:**	06/30/06 13:15
Matrix:	SOLID	**Date Received:**	07/03/06 14:10
Inst. ID:	ICAP 61E	**Sample Size:** 10 mL	**PrepDate:** 07/07/06 12:00 A
ColumnID:		**%Moisture:**	**BatchNo:** 3416/R5952
Revision:	07/14/06 3:48:46 P	**TestCode** TCLPICP	**FileID:** 1-SAMP-27354

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
TCLP METALS BY ICP				**SW6010B**		**(SW3010A)**
Lead	1.0		0.50	mg/L	1	07/11/06 11:49

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND	Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S	Spike Recovery outside accepted recovery limits

Print Date: 07/14/06 15:50 **Project Supervisor:** Monika Santucci