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In the Matter of: Niagara Falls Storage)
Site (NFSS) Formally Utilized Sites)
Remedial Action Program.)

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)

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matter at Lewiston Senior Center 4361 Lower River Road,
Youngstown, New York 14174 on June 24, 2009 at 6:00 p.m.
pursuant to notice.

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1 P R O C E E D I N G

2 MS. ARLEEN KREUSCH: Good evening. I'd like
3 to thank you all for coming tonight and just go
4 over a couple of logistics. The restrooms are
5 over here on my left, your right. There's coffee
6 and cookies. If anyone is interested in
7 refreshments, please feel free to get up any time
8 during the presentation and just grab
9 refreshments. The emergency, there's an
10 emergency, two emergency exits behind me, and then
11 the emergency exit over, that you came in when you
12 signed in.

13 I would like to introduce Ms. Michelle
14 Rhodes. She is the acting program manager for the
15 Niagara Falls Storage Site and Lake Ontario
16 Ordinance Works tonight. Michelle.

17 MS. MICHELLE RHODES: I am very soft spoken
18 so hopefully everybody can hear me in back. Good
19 evening and thank you, everyone, for coming on
20 this beautiful Wednesday evening. I know it's
21 very nice out so we appreciate you attending
22 today. The next slide, please.

23 The purpose of tonight's meeting is several
24 fold, but the most important objective is
25 encourage open communication of information and

1 ideas regarding the Corps' work at the Niagara
2 Falls Storage Site. I would like to start with an
3 update of where we are in the CERCLA process,
4 provide a quick summary of findings from our
5 Remedial Investigation Report that was published
6 in December of 2007, and introduce the scope of
7 the addendum to this Remedial Investigation Report
8 based upon your comments and additional data
9 needed for the Feasibility Study.

10 As we continue to work on the RI addendum, we
11 begin to turn our sights toward the Feasibility
12 Study phase of the process. We will look at
13 multiple alternatives to address site
14 contamination and develop cleanup objectives. A
15 framework for the Feasibility Study has been
16 developed that divides the site into distinct
17 operable units. This approach will help focus the
18 project itself on the area of the greatest
19 potential concern for us, which is the waste
20 containment structure.

21 Finally, we will describe tonight the use of
22 technical memoranda for the Feasibility Study, and
23 these will basically be designed to engage the
24 public in the process. Instead of receiving a
25 very large Remedial Investigation Report we'll

1 break the Feasibility Study down into pieces that
2 are a lot more manageable and integrate input into
3 the process much more. Next slide, please.

4 Tonight we're using a workshop format. We
5 used that at the last LOOW meeting and it seemed
6 to work very well, a lot better to encourage the
7 two-way communication. We'll start with a brief
8 slide presentation that will go from 6:00 to 6:45.
9 Following that presentation, we invite you to come
10 take a look at the posters we have developed.
11 That will be located in the back here. And give
12 you an opportunity to talk to the Niagara Falls
13 Storage Site project team, one on one, with your
14 questions.

15 There are four stations. Behind the screen
16 is the Feasibility Study station. They'll be
17 talking about the framework we propose to use for
18 the Feasibility Study. To my right here will be
19 the RI Addendum station, and also if you'd like to
20 know more about the RI findings. In the back is
21 going to be for Lake Ontario Ordinance Works, and
22 at this time I'd like to introduce Debbie
23 McKinley. If you could stand, please. Debbie is
24 a civil engineer with the Corps St. Louis
25 District. She is currently preparing an archive

1 search report and that will be used to develop
2 recommendations for a path forward on different
3 properties of the Lake Ontario Ordinance Works
4 based on historic site activities.

5 She is also the one that located the original
6 construction report for the LOOW. On my left here
7 we'll have a station for the Department of Energy
8 managed FUSRAP sites, and these are also known as
9 the Closed Vicinity Properties. If Jeff Tack
10 could stand, please. Jeff works for Source One, a
11 Department of Energy records contractor and a DOE
12 FUSRAP records lead since 2001. He's standing in
13 for Chris Clayton tonight, who is the DOE project
14 manager who could not be here. Jeff will be
15 available to explain the DOE's role in FUSRAP,
16 provide DOE contact information and convey
17 comments and concerns to the DOE.

18 At 7:15 we'll reconvene here and conduct a
19 roundtable discussion. So now I guess we can
20 start the slide presentation. If you could hold
21 your questions until the poster session and the
22 Q&A session, but feel free to ask them then. And
23 without any further ado, I'd like to introduce
24 Dave Kulikowski, who will be presenting tonight,
25 followed by Hallie Serazin. They are with SAC,

1 who is the prime contractor for our Remedial
2 Investigation Addendum and the Feasibility Study.

3 MR. DAVE KULIKOWSKI: Can everybody hear me
4 okay? That's good. All right. So let's start,
5 where is the Niagara Falls Storage Site in the
6 CERCLA process? So actions at the site are being
7 performed under the Formerly Utilized Sites
8 Remedial Action Program, also known as FUSRAP,
9 which follows the CERCLA process for hazardous
10 waste site cleanup. The CERCLA program lays out a
11 systematic process for identifying, investigating
12 and cleaning up hazardous waste sites, so the
13 graphic shows we're right in that process. We're
14 in the Remedial Investigation and heading into the
15 Feasibility Study.

16 The purpose of the RI was to define the
17 nature and extent of site contamination and
18 evaluate potential risk to human health and the
19 environment. For this site, the RI included a
20 baseline risk assessment to quantify potential
21 risks to hypothetical receptors both on and off
22 the property and a groundwater model to quantify
23 contaminant transport away from source areas.

24 So the next step in the CERCLA process is the
25 Feasibility Study. During the Feasibility Study

1 cleanup standards will be developed and multiple
2 remedial alternatives to address site
3 contamination will be evaluated.

4 The Feasibility Study then leads into the
5 proposed plan where the preferred remedial
6 alternative is selected. And finally, you have a
7 record of decision which will be filed to document
8 the final decision on site closure. Next slide.

9 Here is a graphical representation of the
10 NFSS over time. Briefly, LOOW was acquired in
11 1942. In 1944 the Manhattan Engineer District,
12 they were granted the use of a portion of the
13 property for storage of radioactive waste, and
14 that's when the Niagara Falls Storage Site was
15 born. 1974 FUSRAP was initiated. 1981 monitoring
16 started and it continues today. Also during the
17 80s the radioactive contaminated soil from a
18 vicinity property was excavated and placed in an
19 area called the R10 dial at the site.

20 Also in the 80s the IWCS was constructed, the
21 Interim Waste Containment Structure, and that went
22 on from 1982 to '86. 1997 rolls around and the
23 NFSS comes under the Corps after being transferred
24 from the DOE. And then we look at current and
25 future actions. Initiation of technical

1 memorandum and the Feasibility Study Work Plan in
2 support of the Feasibility Study and the
3 completion of an RI Addendum which is being
4 developed to identify data gaps. Next slide.

5 We'll look at some of the highlights of
6 CERCLA activities at the site. The RI was
7 completed in three phases of field investigation
8 from '99 to 2003. The RI consisted of three
9 components. You had the Remedial Investigation
10 itself. You had the baseline risk assessment and
11 you had the groundwater flow and contaminant
12 transport model. Other activities that we've had
13 are public information meetings. We had two last
14 year, one in May and one in September and from the
15 meetings we collected over 300 comments, and those
16 were received regarding the RI, the baseline risk
17 assessment and the groundwater model.

18 Those comments were submitted by local, State
19 and Federal regulatory agencies as well as from
20 the community, from all of you. And the Corps is
21 preparing responses to stakeholder comments and
22 developing a responsiveness summary which is
23 expected this fall. And also, we use these
24 comments to identify areas where additional data
25 is needed, and that was used to scope the RI

1 Addendum. Okay. We'll move on.

2 Let's talk about some conclusions from the
3 NFSS RI report. So the RI completed for the site
4 was extensive. It includes approximately 1400
5 samples with over 150,000 analytic results. The
6 RI showed no immediate risk to nearby communities.
7 Data collected for the RI also shows no outside
8 contaminant migration via surface water or
9 sediments. At this site groundwater contamination
10 is in the upper water-bearing zone and it is
11 determined that sand lenses are discontinuous in
12 extent. The feasibility study, moving forward,
13 will examine a variety of options to address long
14 term risks presented by site contamination. And
15 then the environmental surveillance program and
16 site maintenance activities such as IWCS
17 inspections, irrigation and other turf management
18 activities, those will continue.

19 In 2007 enhancements were made to the
20 environmental surveillance program, such as
21 increasing sample locations, such as in the west
22 drainage ditch, and they also increased the number
23 of parameters sampled for. Next slide.

24 So let's look at current and planned RI
25 activities. After receiving the RI comments, the

1 NFSS technical project team met to review draft
2 responses to comments and assess whether
3 significant data gaps exist that would require
4 additional investigation. Some of the data gaps
5 identified, they're going to require additional
6 field investigation and others will require
7 additional review of historic records or the
8 compilation of reference materials cited in the
9 RI. All of this information collected will fill
10 the identified data gaps and then those will be
11 presented in the RI Addendum which is coming out.
12 So now we'll move on. Next slide.

13 These are the RI Addendum topics. So we took
14 the comments, we broke them into areas of concern,
15 and we'll address each of these areas. So first
16 of all is the Interim Waste Containment Structure
17 or the IWCS. You've got pipelines, the Building
18 409 area groundwater, NFSS background values,
19 potential off-site groundwater plumes,
20 radiological sampling results, off-site surface
21 water and sediment, historic operational areas,
22 subsurface geology and supplemental RI
23 information. Next slide.

24 So I'm going to now go through each of those
25 areas in more detail. The first kind of gets you

1 oriented as to the areas that we're going to be
2 focused on for the RI Addendum. So this graphic
3 shows the location of some of the areas identified
4 for further investigation. Exact sample locations
5 have not yet been proposed or identified.

6 So looking at the graphic there, the IWCS is
7 the most prominent feature there, the area of EU-
8 10. You've got pipelines, they're located across
9 the site but the additional investigation will be
10 focused on radiologic contamination primarily in
11 the lines that extend off-site. We'll be looking
12 at radiological contamination in groundwater in
13 the former Building 409 area, which is south of
14 the IWCS. We're going to be examining that plume.
15 We're also going to be installing additional wells
16 to investigate potential off-site groundwater
17 plumes near EU-1. We're going to be looking at
18 this plume up here. EU-4, looking at this plume
19 to the north. And then 9 and 11, kind of looking
20 at the plumes west of the IWCS. Also we'll be
21 performing confirmatory sampling of surface water
22 and sediment in the west drainage ditch and
23 central drainage ditch as part of the
24 environmental surveillance program. All right.
25 Our next slide.

1 So now I'm going to go over each of the RI
2 Addendum topics and what we're going to look at
3 for each of those. So first of all, we're going
4 to start with the IWCS. So the Corps has
5 determined at this time sufficient information
6 exists regarding the IWCS contents and the short-
7 term integrity of the structure to begin
8 evaluating alternatives in the Feasibility Study.
9 In addition to the geotechnical information
10 presented in the RI, the short term integrity of
11 the IWCS is continually monitored through the
12 environmental surveillance program and it's
13 maintained under operation and maintenance.
14 Assessment of remedial options for the IWCS
15 potentially requiring intrusive sampling will be
16 addressed after the record of decision. So if you
17 remember on that diagram, the record of decision
18 was out in the future. So in the meantime, we'll
19 compile details on the IWCS construction and its
20 inventory, include the LOOW completion report,
21 which was completed back in 1943 as supplement RI
22 information. Next slide.

23 Next we'll be covering pipelines. The RI
24 Addendum will provide documentation that
25 subsurface pipelines extending off the NFSS

1 property that have been plugged. So as we already
2 stated, the LOOW completion report, the old report
3 from '43, will be provided as supplemental RI
4 information. This report, which provides
5 construction details for the LOOW could also
6 provide information that's relevant to the Niagara
7 Falls site with respect to the location of
8 pipelines. As part of the investigation that's
9 being completed for the LOOW, an underground
10 utilities RI was completed. Although the LOOW
11 investigation was primarily interested in chemical
12 contaminants, several samples collected for that
13 investigation, they were split and they were
14 analyzed for radiological parameters.

15 The radiological results from the split
16 samples collected from the off-site utility lines
17 will be screened against background and risk
18 limits and included in the RI Addendum. So then
19 finally for the IWCS in the vicinity of it, the
20 pipeline engineering schedule, it shows areas of
21 the pipelines that were severed, filled or
22 removed, and this will be provided as supplemental
23 RI information along with backup construction
24 photographs. This information will be used to
25 locate the deepest pipelines and the under drains

1 and the depth of the deepest pipelines will be
2 compared to the depth of the clay cutoff wall.
3 Next slide.

4 Now we're going to look at Building 409 area
5 groundwater. We're going to look at the plume
6 there. This slide here, it shows the dissolved
7 toty uranium groundwater plume located south of
8 that Building 409 and this is the way we presented
9 it in the RI report. So the area shown in green
10 exceed background levels. Now, since the RI
11 report was released, new information regarding the
12 shape and the extent of this plume, it's been
13 reviewed and this information suggests that the
14 configuration of the plume may be overly
15 conservative, so what we're going to do is present
16 a new, a new view of it. The plume shown here,
17 that was drawn using dissolved toty uranium data
18 from monitoring wells, temporary well points and
19 manhole locations. So we've got the TWP's, TWP
20 and we have a manhole up here. And the linear
21 plume extending here, that was drawn, assuming it
22 was following a 10-inch potable line which was
23 left in place. And for plume delineation, water
24 in the manhole was assumed to be in direct contact
25 with groundwater, all very conservative

1 assumptions. So if we kind of look at the plume,
2 just look at it in terms of groundwater and re-
3 evaluate it using environmental surveillance, it
4 might have a different look. Go ahead and click.

5 Not as extensive as we had it drawn before,
6 taking out the manmade features, the manmade pipes
7 and drawing it, you know, what it probably looks
8 like. So in addition, subsurface cross sections
9 completed in the Building 409 area will be used to
10 re-evaluate the plume configuration based on the
11 presence of sand lenses and then including the
12 findings for the upper water-bearing zone at this
13 well out there, OW-18D which is the sample that's
14 part of the environmental surveillance program.
15 Next slide.

16 Now we're going to look at background values.
17 So if you address a lot of the RI comments
18 received regarding background levels, the
19 background data set for soil, that's going to be
20 compared to background soil concentrations
21 including in the New York State Brown Field
22 legislation. Then turning to groundwater and
23 looking at background groundwater values, the
24 distributions for background groundwater data will
25 also be evaluated for both the upper and lower

1 water-bearing zones, and we're going to look at
2 those to determine whether two distinct background
3 data sets exist for these two zones and would this
4 be more representative site conditions. Then
5 we're going to look at the concentrations of
6 uranium and operating wells that were used to
7 establish background groundwater concentrations
8 and this will be compared to naturally occurring
9 groundwater concentrations of uranium as indicated
10 in surveys of drinking water sources cited by the
11 USEPA.

12 And then finally, to respond to questions
13 regarding the location of uranium isotopes
14 relative to each other and historic information on
15 site operations and storage practices, the report
16 titled "Utilizing Isotopic Uranium Ratios in
17 Groundwater Evaluations at NFS," that's going to
18 be provided also in the RI Addendum. And next
19 slide.

20 Next we'll talk about groundwater
21 contamination. In the RI we had maps that showed
22 the extent of groundwater plumes in the upper
23 water-bearing zone. Now we didn't have any
24 definable plumes in the lower water-bearing zone,
25 so the upper water-bearing plumes, those were

1 delineated for uranium, manganese, boron and
2 organic solids. And just a quick note, when you
3 see the posters back here, they've got all the
4 plumes laid out real nice so, you know, you can
5 look at those after this. So concern has been
6 expressed that some of these plumes may be
7 extending off-site, including the uranium plume
8 located in the far northwest corner of the U-1.
9 There is a plume that's heading off -- well, not
10 heading off, it's just in that area.

11 And then there's an organic solvent uranium
12 manganese and boron plume located near the
13 northern side boundary in U-4 so we have a plume
14 here that we're going to be looking at. And then
15 the uranium plume located west of the IWCS and its
16 potential interaction with the west drainage ditch
17 along EU-9 and 11, kind of looking at this area
18 right there. So additional sampling has been
19 proposed for these areas.

20 So to better define the offsite extent of the
21 groundwater plumes in this upper water-bearing
22 zone, and to determine whether there's a potential
23 for interaction between groundwater and surface
24 water in the west drainage ditch, soil borings and
25 temporal low points will be installed and utilized

1 to select optimal locations for new permanent
2 wells, and then these wells, in addition to the
3 sampling of the central drainage ditch will be
4 sampled as part of the environmental surveillance
5 program. And then we'll take all that groundwater
6 data and we'll revise the plumes to show more
7 recent data. Next slide.

8 RI Addendum, another topic. Radiological
9 sample results. After the RI was completed, it
10 was discovered that 17 surface soil samples
11 analyzed for plutonium, they were re-analyzed by
12 the lab, and were inadvertently omitted from the
13 RI data set. So we've located these results.
14 These results were presented in the RI Addendum
15 along with an uncertainly analysis to indicate
16 whether these results changed conclusions
17 regarding the presence of plutonium at the site.

18 Then we're going to present additional
19 radiological groundwater data from environmental
20 surveillance program sampling. They've added some
21 new parameters, cesium, plutonium, strontium,
22 trivium and technetium. And then finally we're
23 going to present radiological results for 57 drum
24 samples of investigative dry waste that was
25 derived during the RI field operations, and

1 there's 57 drums of dedicated soil boring per drum
2 and those were analyzed when they used those
3 results and presented those in the RI Addendum.
4 Next slide.

5 Off-site surface water and sediments. So one
6 of the objectives of the additional groundwater
7 sampling is to investigate whether the potential
8 for interaction between groundwater and surface
9 water exists in the west drainage ditch. So this
10 analysis will utilize groundwater and surface
11 water sediment data collected in the west drainage
12 ditch as part of the environmental surveillance
13 program and then also this data from the central
14 drainage ditch will be presented in the RI
15 Addendum along with the results of radiological
16 samples collected during the LOOW underground
17 utilities RI. So if newer information suggests
18 changes to our understanding and the nature and
19 extent of contamination, a discussion of this will
20 be presented in the addendum.

21 Then finally we're going to do modeling
22 results, use modeling results to assess
23 groundwater and surface water interaction in the
24 ditches. Next slide.

25 Historic operational areas. To further
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1 assess historical site operations, a more in-depth
2 historical area photo review of the site will be
3 conducted by the Topographic Engineering Center.
4 An interpretation of aerial photographs is
5 included as part of the history search for the
6 former LOOW and a similar review is going to be
7 conducted but focused on the Niagara Falls 191
8 acres. Also historic operational photos will be
9 compared to the location of current groundwater
10 plumes and any available historical records and
11 waste manifests for the Knolls Atomic Power Lab
12 materials will be provided as supplemental RI
13 information. Next slide.

14 Moving downward into subsurface geology. To
15 further understanding of the subsurface geology,
16 boring logs for the Phase 3 RI investigations will
17 be appended to the RI Addendum and local results
18 from Phase 3 of the RI, they were utilized.
19 However, the soil borings themselves were produced
20 after the sand lense assessment was completed.

21 So additional subsurface cross sections will
22 be developed near the IWCS and near the areas
23 where groundwater contamination is potentially
24 moving off-site to better understand the
25 occurrence of sand lenses. This will be included

1 in the report. And then finally you've got the --
2 we're going to revise some downhole gamma logging
3 results that were presented as an appendix in the
4 RI. Next slide.

5 And then finally, the last topic is the
6 supplemental information. So the RI Addendum will
7 also include a description of the environmental
8 surveillance program and an explanation of how the
9 program monitors IWCS integrity. And then
10 finally, there are samples of railroad ballasts,
11 building materials and road core. They were
12 collected and analyzed during the RI but the
13 results were not evaluated in the RI or the
14 baseline risk assessment at that time because
15 there was no representative background level for
16 comparison. To be thorough though, the samples
17 will be screened against surface soil background
18 levels and risk base limits in the RI Addendum.

19 So we've seen now what we've done. We've
20 done the RI. We're going to move into the RI
21 Addendum but we're also going to move forward to
22 the Feasibility Study and that's where Hallie is
23 going to take over.

24 MS. HALLIE SERAZIN: Thanks, Dave. So as
25 Michelle said, we're going to continue to work on

1 the RI Addendum but we're also going to begin to
2 turn our sights toward the Feasibility Study. And
3 during the Feasibility Study we're going to --
4 during the Feasibility Study we're going to
5 develop multiple remedial alternatives and
6 consider them for each of the operable units, and
7 we're going to develop cleanup objectives.

8 The framework for the Niagara Falls Storage
9 Site Feasibility Study divides the site into three
10 operable units, the IWCS, balance of plant and
11 groundwater.

12 So let's start with the definition. An
13 operable unit is an area of the site or an
14 environmental media that will be assessed for the
15 feasibility of using a given remedial approach.
16 So for instance, for some operable units,
17 excavation and disposal may be a reasonable
18 alternative whereas an operable unit that had
19 groundwater may require a pump and treat
20 technology. The operable unit approach has
21 several advantages but the principal advantage is
22 that it allows prioritization and faster action on
23 the area of the site that presents the greatest
24 potential risk, the IWCS.

25 Another key feature of the Feasibility Study
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1 work plan is the use of technical memoranda to
2 address key technical issues and to encourage
3 public engagement early in the Feasibility Study
4 process and not wait for Feasibility Study
5 completion. Next.

6 The next three slides will describe each of
7 the operable units and review some of the remedial
8 alternatives that will be considered for each. A
9 summary list of all the remedial alternatives to
10 be considered are presented on a poster, but I'm
11 just going to go over some of them briefly here.
12 You'll notice on that poster that the no action
13 and no further action alternative is listed for
14 all three operable units. No action is just what
15 the name suggests. It's a cutoff of all current
16 activities at the site. No further action is
17 continuation of existing site controls,
18 maintenance and monitoring. No action alternative
19 is required by CERCLA and will be used as a basis
20 of comparison for the other alternatives
21 considered. However, the Corps does not consider
22 no action as a feasible option.

23 The IWCS operable unit, let's start with that
24 one, includes the radioactive residues and waste
25 materials placed inside the IWCS by the Department

1 of Energy during previous remedial efforts.
2 Remedial alternatives being considered for the
3 IWCS operable unit include complete or partial
4 removal of the IWCS contents, the residues and
5 waste material, with off-site disposal or
6 placement in a new on-site long term storage
7 facility. No numeric cleanup criteria will be
8 calculated for the IWCS operable unit. Residues
9 or waste materials will be identified visually and
10 removed along with an additional buffer of the
11 surrounding materials.

12 The balance of plant operable unit will
13 address soils and surface or subsurface structures
14 outside the IWCS and any remaining IWCS soil or
15 structures remaining after the residues and waste
16 materials have been removed. The balance of plant
17 materials will be delineated using numeric cleanup
18 criteria developed during the Feasibility Study.
19 Remedial alternatives being considered for the
20 balance of plant operable unit include complete or
21 partial removal of all the materials contaminated
22 above numeric cleanup criteria with either on or
23 off-site disposal.

24 The groundwater operable unit will address
25 any remaining groundwater contamination after

1 remedy selection for the IWCS and balance of plant
2 operable units. Note that this figure shows the
3 groundwater plumes as they were presented in the
4 RI. The plume boundaries will be updated based on
5 what we find by completing the RI Addendum and
6 then new plume shapes will be carried forward into
7 the Feasibility Study.

8 Remedial alternatives being considered for
9 groundwater operable unit include source removal
10 and groundwater treatment, reactive barriers,
11 plume containment, et cetera.

12 The Feasibility Study for the NFSS will first
13 focus on the IWCS operable unit where a majority
14 of the radiologically contaminated materials are
15 located. If a remedy is selected that calls for
16 complete removal of all waste materials inside the
17 IWCS, the remaining materials will be addressed by
18 the balance of plant operable unit. Sequencing
19 the three operable units allows for the IWCS to be
20 addressed first and accounts for the fact that
21 remedy selection for each of the operable units
22 selects alternative -- or affects alternative
23 selection for the remaining operable units.

24 Prior to developing the operable unit
25 Feasibility Study technical memoranda will be

1 developed to address key technical issues and the
2 results from the technical memoranda will be used
3 for evaluation of the remedial alternatives.

4 So we've presented two key features of the NFSS
5 Feasibility Study work plan, operable units and
6 the use of technical memoranda. One of the key
7 benefits of the operable unit approach is that it
8 allows for prioritization and quick action on the
9 IWCS. Also breaking up the site into operable
10 units allows for a more appropriate selection of
11 remedial alternatives. Using the technical
12 memoranda process allows for public engagement in
13 the early stages of the Feasibility Study and
14 allows the Feasibility Study efforts to begin
15 while the RI activities continue.

16 And this is the technical memoranda
17 development process. Again, the technical
18 memoranda process provides a means for achieving a
19 consensus on fundamental issues relating to the
20 evaluation of remedial alternatives. Completing
21 the technical memoranda in a stepwise process sets
22 a specific path forward for completion of the
23 Feasibility Study.

24 The process begins with the release of a fact
25 sheet describing the purpose and objectives of the

1 technical memorandum and asks for public input.

2 If necessary the technical memorandum objectives
3 will be modified in response to comments.

4 Next the technical memorandum is prepared and
5 released. A draft copy of the document will be
6 placed in the administrative record and a second
7 fact sheet will be issued to summarize the key
8 findings of the technical memoranda and to
9 announce the availability of the report. Public
10 comments will again be accepted and substantial
11 comments could require revision of the technical
12 memoranda and another round of comments.

13 So you see, the technical memorandum process
14 allows for public review and comment, both at the
15 beginning and the end of the process.

16 The following slides present preliminary
17 technical memoranda plan for each of the operable
18 units. For all three operable units there are
19 technical memoranda that specify remedial action
20 objectives and applicable or relevant and
21 appropriate requirements or ARARs, and boy, is
22 that a mouthful, and to cover alternative
23 development and screening technologies. These
24 concepts require some explanation.

25 Remedial action objectives are requirements
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1 that an alternative must meet to ensure the
2 protection of human health and the environment.
3 Remedial action objectives for the Niagara Falls
4 Storage Site will be based on what are called
5 applicable or relevant and appropriate
6 requirements or ARARs whenever possible. ARARs
7 are numeric criteria specified by law or
8 regulation to ensure long term protection of human
9 health and the environment. Each of the operable
10 units will also have a technical memoranda to
11 screen available technologies and select remedial
12 alternatives. These technical memoranda will
13 identify a list of remedial alternatives to be
14 detailed in the Feasibility Study. I won't repeat
15 the names of these technical memoranda but you'll
16 see them on the slides for each of the operable
17 units.

18 So let's start with the IWCS. Technical
19 memoranda for the IWCS operable unit include a
20 radon assessment which will assess potential radon
21 levels emanating from the residues currently
22 stored in the IWCS under various relief scenarios.
23 The radiological exposure assessment technical
24 memoranda will assess potential gamma radiation
25 exposures under various IWCS relief scenario.

1 Waste disposal options and from all lessons
2 learned, will address waste disposal options
3 currently available for the various waste streams
4 at NFSS and review lessons learned from activities
5 associated with the removal of the K-65 residues
6 at the Fernold (sic) site. And then we have those
7 other two. Next.

8 Elements to be covered by the balance of
9 plant operable unit memoranda include land use
10 assessment and groundwater evaluation. This
11 technical memoranda will evaluate possible future
12 use of the NFSS property and research whether the
13 upper water-bearing zone groundwater should be
14 considered a viable source for drinking water.
15 Establishment of radiological and chemical cleanup
16 standards and evaluation of residual results will
17 summarize regulatory requirements that establish
18 radiological and chemical cleanup standards. For
19 chemicals that do not have promulgated standards
20 the technical memoranda will present details on
21 how risk based cleanup values will be calculated.

22 And finally, the volume modeling and results
23 will document calculations made to estimate the
24 volume of materials that will need to be removed.
25 And then we have those other two. Next.

1 The groundwater for technical memoranda to be
2 developed for the groundwater operable unit
3 include the same thing again, the establishment of
4 radiological and chemical cleanup standards and
5 evaluation of residual risks. However, this time
6 it will be focused on groundwater. The two, the
7 alternatives and the ARARs and then also a
8 technical memoranda to update the groundwater flow
9 and contaminant transport model may be needed if
10 groundwater concerns continue to be an issue after
11 remedial selection for the IWCS and the balance of
12 plant operable units. The Corps will decide on
13 the necessity and scope of this technical
14 memorandum.

15 So, what's next? Planned activities for the
16 NFSS include providing written comment -- I'm
17 sorry, providing written responses to all comments
18 on the RI by the fall of 2009. In the meantime,
19 all the comments received have been posted to the
20 NFSS website.

21 Conduct additional RI field activities and
22 complete the RI Addendum, review public comments
23 on the Feasibility Study work plan and revise the
24 plan if necessary, begin implementation of the
25 Feasibility Study work plan, begin preparation of

1 the IWCS technical memoranda and continue site
2 maintenance, environmental monitoring and annual
3 reporting.

4 Now, ARLEEN is going to introduce the poster
5 presentation.

6 MS. ARLEEN KREUSCH: Thank you. We just put
7 copies of CDs for the presentation for tonight's
8 meeting in the back of the room; if you want to
9 get those before you leave you're welcome to.

10 We also have hard copy copies of the
11 presentation and we will be putting the
12 presentation up on the website tomorrow. If you
13 haven't visited our administrative record files in
14 the Lewiston or Youngstown Library, we keep our
15 reports in both of those libraries. We also have
16 an electronic mailing list, so if you signed in
17 tonight and didn't give us your email address but
18 you would like to receive updates on the site,
19 please put your email address on the sign-in sheet
20 before you leave. Could you do the next slide
21 that has our contact information, and there's also
22 little cards in the back that have that
23 information. And you can email, if you email
24 FUSRAP at USACE.army.mail you'll reach me, so feel
25 free to send an email if you have any questions.

1 And I'm the 1-800 number, too. So let's see, I
2 guess we'll go to the next slide which has the
3 different posters.

4 The RI posters are along the -- kind of like
5 starting here and they go along the back of the
6 room. I'd like the people that are going to be at
7 that poster area to stand up so people will know
8 who to talk to. Dave Kulikowski is from SAIC.
9 Karen Keil, Dr. Karen Keil, our risk assessor.
10 Okay. Then we have the next poster area is the
11 Feasibility Study poster area. Who's going to be
12 at that one? Okay. Hallie Serazin from SAIC will
13 be there and Michelle Rhodes, our program manager.
14 And the Lake Ontario Ordinance Works site,
15 historic records search, Debbie McKinley will be
16 there. Linda Houston and Jeff Hall, are you going
17 to be in that area, too? Jeff, would you stand up
18 as well. Linda is the program manager for the
19 Lake Ontario Ordinance -- project manager for the
20 Lake Ontario Ordinance Works site and Jeff is our
21 project engineer, and Debbie is our records
22 searcher. So they'll be happy to answer any
23 questions you have about that information.

24 And then we have Jeff Tack from the
25 Department of Energy and he is going to be right

1 over in this area and he actually has a board that
2 if you have questions you want him to take back to
3 the DOE he will be writing those down for you.

4 With that we're going to break into the
5 poster session part of the agenda. I need
6 everyone to move from this side of the room to
7 that side of the room because we're going to be
8 rearranging the tables and chairs. And we will
9 reconvene around the round table portion of the
10 meeting at 7:15. So I'll be calling you back to
11 order at 7:15. Thank you very much.

12 (Off the record.)

13 (Round table session.)

14 MS. ARLEEN KREUSCH: Okay. I'd like to go
15 through a few operating principles for the
16 workshop portion of this meeting. First I would
17 like us all to remember to be courteous, please.
18 If you have any electronics, cell phones, pagers
19 or whatever, put them on vibrate or turn them off.
20 Listen respectfully. One person talking at a
21 time. Raise your hand when you want to speak.
22 Please state your name before commenting so that
23 everyone knows who you are, and we want to give
24 everyone a chance to comment. If there's
25 something that we are not going to be able to

1 discuss at tonight's meeting or we don't have an
2 answer for your question we will put that item in
3 the parking lot, and we will either be, you know,
4 providing you with the information directly or
5 putting the information on the web, or we will let
6 you know how we will be getting back to you with
7 everything. So let's see, is there anyone that
8 would like to add an operating principle or that
9 is not okay with these four operating principles
10 for tonight's meeting? Okay.

11 Sherry Spann is going to be writing down our
12 comments or our action items tonight for me. Is
13 there -- I guess we'll start with the RI Addendum
14 and if there's any comments or questions that you
15 have on any of the slides, Ms. Ellen Rager is
16 sitting in the middle of the room ready to bring
17 up the slide that you'd like to discuss. So if
18 there's any questions on either the Niagara Falls
19 Storage Site RI Addendum, Ms. Roberts.

20 MS. ANN ROBERTS: I'd like to ask, could you
21 focus on the slide which dealt with groundwater
22 background levels, because one of the comments
23 that the RAB made was that the background set for
24 groundwater had been taken on a former vicinity
25 property which had a history of both radiological

1 and chemical contamination so was it valid to
2 actually take background samples on such a
3 property? And in particular, the RAB was really
4 concerned about uranium in groundwater, the upper
5 water-bearing zone, because uranium seems to be a
6 very good indicator of subsurface contamination
7 and when we went to look at the environmental
8 surveillance data for the NFSS we found that
9 originally the background uranium level was 3
10 picocuries per liter or less, and then over time
11 it was gradually increased. The first four years
12 samples were taken off-site in the upper water-
13 bearing zone. Then after four years DOE for some
14 reason decided to site their background actually
15 on the NFSS itself, and at that point the
16 background jumped up to about 7. Then over a
17 period of time there was a gradual increase which
18 we felt, since you're taking background actually
19 on the NFSS, that's not really valid.

20 My concern now is that what you're suggesting
21 to compare background groundwater concentrations
22 would naturally occur in concentrations of uranium
23 developed by US Environmental Protection Agency.
24 What are we talking about? What is the value of
25 uranium that that would be? Does anybody know?

1 MS. KAREN KEIL: It's a range.

2 MS. ANN ROBERTS: Right. But we're talking
3 about a very specific site, the NFSS. We're
4 looking at the soil and subsurface soil data that
5 you produced, which I think is very good, by the
6 way. It shows that uranium in the area is very,
7 very low. You would expect to find virtually
8 none. And you took several samples in and around
9 the LOOW site, which if that is the case, which it
10 obviously is, then to use something which is much
11 broader is going to disguise the fact that we do
12 have uranium contamination.

13 DR. KAREN KEIL: Well, we're not using it to
14 replace the site specific background data set that
15 we took. We're just using it to show that when
16 the EPA promulgated the, for example, the net
17 contaminant level for groundwater, they looked at
18 surveys of uranium naturally occurring constituent
19 in soils and water. They looked at ranges of
20 uranium that occurred in groundwater -- in natural
21 unimpacted systems. And you made a valid point
22 that we took our background data within the
23 boundaries of the larger 7500 acre LOOW site, and
24 we did -- yeah, we also did it for groundwater.
25 We took the larger groundwater data that was on

1 the modern property. Cheryl, do you want to speak
2 about that or --

3 MS. ARLEEN KREUSCH: For the people that are
4 on the core team or anybody else, would you please
5 state who you are before you speak because the
6 court recorder is trying to take down and they
7 don't know who you are.

8 DR. KAREN KEIL: I'm so sorry. I'm Karen
9 Keil, the risk assessor from the Army Corps of
10 Engineers.

11 MS. ARLEEN KREUSCH: Thank you, Karen. Okay.
12 I'm sorry.

13 MS. MICHELLE RHODES: I guess, Ann, you
14 bring up a valid point. This was a former
15 vicinity property which was cleaned up by the
16 Department of Energy in the 1980s.

17 It has since been closed out, independently
18 certified as clean. One of the important things
19 about a background groundwater sampling is, you
20 want to have similar geology to your site.
21 Obviously uranium is naturally occurring as well
22 and you want to have something that's
23 representative of the area.

24 You also would like to have a lot of data, as
25 much as possible, to make sure it's

1 representative. The quantity of wells that were
2 available to us on Modern, which is hydraulically
3 upgradient, or you know, the groundwater flows
4 from Modern to our site, made it a good location
5 from that standpoint as to the volume of data that
6 we could use.

7 One of the things we did is, we did an extra
8 assessment. Once we received the data from
9 Modern, we looked at the uranium content
10 specifically. That was a concern of ours as well.
11 We looked to see whether or not there was any
12 outliers or having the data followed in, you know,
13 a certain range, and then having a couple that are
14 real high, which might be indicative of you know,
15 of suspect past contamination. So we did identify
16 a couple outliers that were removed before we
17 developed our background number.

18 In addition to that, we did what was called a
19 uranium ratio assessment. Basically we looked to
20 see the ratio of, to the different uranium
21 isotopes, and what that tells us is, it sort of
22 ages the uranium in groundwater. If it's closer
23 to 1, then it's typical of a, sort of a site
24 contamination type of issue. If it was above 1.2
25 which is the threshold we developed, then it

1 seemed to be not as suspect as far as that went.

2 One of the important things to note, and I
3 guess this is what kind of led us to be more
4 comfortable with it is, the more important thing
5 is, you know, what risk does it pose. And we
6 looked at the numbers, which were substantially
7 lower than drinking water standards. So from a
8 nature and extent standpoint, we understand that
9 that might be a concern. But as far as a risk
10 standpoint goes, and what eventually will end up
11 being the major issue, the fact that it was so
12 substantially lower than drinking water, basically
13 even the outliers that we got rid of were below
14 drinking water standards. But we eliminated them
15 to be more conservative.

16 So I agree with you that that was a concern
17 of ours, but I guess that the risk aspect and when
18 we did the uranium ratio we looked at those and
19 took out the outliers, it gave us a little more
20 comfort with using that area.

21 MS. ANN ROBERTS: My concern is not for the
22 actual risk aspect of the uranium concentration.
23 I am concerned about the usefulness of uranium
24 levels in groundwater as being an indicator of
25 subsurface contamination. Now, that's why I have

1 read the paper that the Corps put together on
2 uranium isotope ratios. I have some fundamental
3 problems with what's in that paper, but I think
4 for the purposes of this meeting, this is not the
5 appropriate forum to bore everybody to tears with
6 it.

7 But having looked at the historical data
8 which is extensive for the Niagara Falls Storage
9 Site, the environmental surveillance of
10 groundwater, the original off-site readings were 3
11 picocuries per liter or less and several of the
12 wells at that point which were located on the NFSS
13 were similarly 3 picocuries per liter.

14 And then over time the levels of uranium
15 crept up. Now what's really worrisome to the
16 community is that we are now finding that levels
17 of uranium in groundwater are very high,
18 comparatively so, to a background of 3 on several
19 vicinity properties. And we're finding things
20 like 100 picocuries per liter, 60 picocuries per
21 liter. And this information has not really been
22 made public.

23 So the concerns for radioactivity on the
24 vicinity properties continue to grow. You say
25 that this particular vicinity property where the

1 background samples were taken was certified as
2 being clean. But review of the Department of
3 Energy surveys show various flaws in what was
4 actually done.

5 The 1972 surveys in remediation have been
6 completely discredited because the detector was
7 held a meter above the surface. So they would
8 have missed, the AC would have missed most of the
9 surface and subsurface contamination. So I think
10 as a community we have no confidence that citing a
11 background on a vicinity property is going to be
12 realistic. And then if you follow that through to
13 the other vicinity properties where soil can be
14 disturbed, we're very concerned.

15 MS. MICHELLE RHODES: I guess, too, having a
16 Department of Energy representative here tonight,
17 which is very helpful, I'm sure that he'll take
18 that back to his office as well as a concern. I
19 know they are very open as far as listening
20 tonight and getting more information on what the
21 community is most interested in.

22 DR. KAREN KEIL: He's also a little bit
23 careful comparing historical measurements to
24 current measurements, I mean there's a difference
25 in measurement techniques. You've done a mass

1 basis versus a radioactive isotopic basis which we
2 do today. And there may have been a difference in
3 the way they're doing the conversion, too. We
4 understand your concern but it's, maybe just the
5 numbers may not be exactly comparable.

6 MS. ANN ROBERTS: I don't want to take a lot
7 of time. I just have --

8 MS. ARLEEN KREUSCH: We'll let you counter
9 and then we'll see if anybody else has any other
10 questions.

11 MS. ANN ROBERTS: Right, right. I think what
12 Karen has just said is true but that if we're
13 comparing something that's of the order of 100
14 picocuries per liter with something that was
15 measured then as being 3, the recent data for the
16 NFSS, it's risen to about 9, I think, picocuries
17 per liter. Yeah. So we're talking an order of
18 magnitude of about 10.

19 MS. KAREN KEIL: Not, I mean 100, we'll never
20 see 100 picocuries per liters background value.

21 MS. ANN ROBERTS: Right. Thanks.

22 MS. ARLEEN KREUSCH: Okay. Does anyone else
23 have any questions on anything in the
24 presentation? Niagara Falls Storage Site,
25 Remedial Investigation Addendum or the Feasibility

1 Study approach? Yes. And your name is.

2 MR. BILL SKOBEL: My name is Bill Skobel. I
3 just have one quick question. What's the current
4 planned schedule for the submittal of the RI
5 Addendum and the F.S. process?

6 MS. MICHELLE RHODES: Right now we're hoping
7 to do the field work on the Remedial Investigation
8 Addendum this fall. Right now we're working on
9 awarding the contract which will be followed by
10 development of work plans and followed by the
11 field work. So we're looking at definitely the
12 report to be followed after that, the following
13 year. From the Feasibility Study standpoint, the
14 first deliverable that will be seen is the
15 Feasibility Study work plan and basically that
16 just lays out sort of the approach that we're
17 presenting tonight in a little more detail.

18 And that should be coming out this year, as
19 well as we're hoping, best case, that the radon
20 assessment tech memo which is the first
21 Feasibility Study tech memo for the Interim Waste
22 Containment Structure.

23 MS. ARLEEN KREUSCH: Any additional
24 questions? Nobody else? Nils, do you want to go
25 first.

1 MR. NILS OLSEN: My question though isn't
2 about the slides that were put up.

3 MS. ARLEEN KREUSCH: Okay.

4 MR. NILS OLSEN: My name is Nils Olsen. I've
5 had a long engagement with this process. I was
6 the first RAB citizen co-chair on the RAB that was
7 dissolved and replaced by the current RAB which is
8 no longer in active dialogue with you. And then
9 I'm on the steering committee of the RAB.

10 My question and a number of people have asked
11 me about this, is to seek a clarification with
12 respect to the interim removal action on Area C
13 drum trench and trash pit at the Chemical Waste
14 Management property that was announced I think at
15 your last meeting. In the March 2009 site status
16 update you stated that the intent of the non-timed
17 critical removal actions at the former LOOW site
18 is to lower the threat of exposure and/or
19 contaminant migration from the areas of concern
20 until a final remedial action is implemented.

21 You also indicate that these interim actions
22 will be informed by HHRA and SCERA, which I guess
23 are risk assessments with respect to health and
24 the environment. In the May 2009 risk assessment
25 fact sheet on page 5 it states that no human

1 health or ecological concerns are present for the
2 drum trench and trash pit. So I guess what people
3 are wondering is, is this still an interim removal
4 action that is being studied and planned for by
5 the Corps in light of the fact that you seem to
6 suggest that there isn't any immediate threat.
7 And I'll say that the reason that people are
8 concerned is because of the fact that areas with
9 considerably more access than the interior of
10 Chemical Waste Management, which is surrounded by
11 a barbed wire fence and guards, and on which most
12 of the people who are proximate to that area are
13 usually wearing Tybek suits, there are areas that
14 do raise health concerns, namely the wastewater
15 plant in the Town of Lewiston, the underground
16 utilities in the Town of Lewiston, the Occidental
17 Chemical property and, of course, the single
18 biggest concern of this community I suspect is,
19 has been, and will continue to be the proximity of
20 the school property to both the Lake Ontario
21 Ordinance site and the Niagara Falls Storage Site.
22 So there is some concern that this has been
23 announced as the first, to my knowledge, interim
24 removal action, and that these other sites that I
25 think are of more concern to the community if for

1 no other reason than the fact that they're much
2 more accessible, first of all, and secondly, there
3 is, I must admit, some cynical concern because
4 this particular portion of the Chemical Waste
5 Management property is closely connected to the
6 proposed site for the new RMT landfill that's
7 being proposed so that this work could be seen as
8 a way to kind of further that project.

9 So I guess, in light of those concerns, is it
10 still the Corps' position that there should be an
11 interim removal action on Area C, in light of your
12 published conclusion that there aren't any
13 threats, immediate threats that are posed by it.

14 MS. ARLEEN KREUSCH: Okay. Thank you, Nils.
15 Linda, would you like to take that?

16 MS. LINDA HOUSTON: Yes. My name is Linda
17 Houston. I'm the project manager for the LOOW,
18 and yes, we are looking at Areas A, B, and C.
19 They had been identified a number of years ago in
20 Phase 1 and Phase 2 RI work that EA had done.

21 And we are following the CERCLA process with
22 that. We do not have a scheduled removal action
23 right now. What we're doing is looking at the
24 areas. If you look at the interim removal process
25 under CERCLA, this is a potential thread. There

1 are point sources that we're interested in looking
2 at and removing, the point source of buried drums
3 that have been identified. So there are three
4 separate areas that, yes, we are looking at them.
5 We do not have immediate remediation plans for
6 that, but we do not want those to fall through the
7 cracks.

8 I would like to address your wastewater
9 treatment plant concerns and some of your other
10 concerns. We are moving out, we have received
11 work plans that are being posted to our website
12 this week for the Phase 4 Remedial Investigation
13 at LOOW, which does in fact cover the wastewater
14 treatment plan specifically. And we will be doing
15 some sampling in that area. The underground
16 utility report was released a couple weeks ago and
17 our intent is for our next public meeting that we
18 would like that to be one of the main topics of
19 discussion to give folks time to read that report
20 and so that is our plan, to discuss that.

21 As far as the school concern, we do plan to
22 do some additional work in that area and also in
23 the western drainage ditch as well, on the LOOW
24 side.

25 MR. NILS OLSEN: That's certainly
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1 encouraging, I guess. Just as a non-technical
2 person, I am a little confused by the May
3 statement that there are no health or
4 environmental risks associated with that Area C.

5 DR. KAREN KEIL: That statement was based on
6 -- that risk assessment was based on the media
7 outside of the actual drum trench and drums. It
8 didn't include a consideration of exposure
9 directly to the drums. So I mean, the interim
10 removal action is based on the fact that we have,
11 like Linda said, we have a source term that could
12 potentially leach into the environment but the
13 risk itself to the media, the soil surrounding and
14 top of the drum trench don't show any current
15 leaching from the drums.

16 MR. NILS OLSEN: I mean, surely the threat to
17 health would be minimized by the fact that it's in
18 the heart of a carefully regulated and policed
19 hazardous waste landfill.

20 DR. KAREN KEIL: Sure.

21 MR. NILS OLSEN: Where you don't have a lot
22 of people wandering around --

23 DR. KAREN KEIL: That's true but --

24 MR. NILS OLSEN: -- without environmental
25 protection as opposed to many of these other sites

1 and not to mention the school with the 3,600
2 children and staff. So I guess that's the basis
3 of the community's concern and I'm certainly
4 pleased that you're looking at these other areas
5 but we would certainly hope that given the history
6 of the rather uncertainty of funding that's
7 available to you that funding would be focused in
8 areas where there is more of a risk of public
9 exposure than Chemical Waste Management.

10 But this doesn't mean that the RAB is
11 concerned with Chemical Waste Management, I hasten
12 to say. This is really a concern with respect to
13 the process and the timing that you employ when
14 you enter into these cleanups.

15 MS. ARLEEN KREUSCH: Thank you, Nils. Does
16 anyone else have a question before we go back to
17 Ann? Okay. Ann.

18 MS. ANN ROBERTS: Before I follow through
19 with my question, something else just occurred to
20 me as Nils was speaking, and that was, is there a
21 definition of when you would actually carry out an
22 interim removal action if there's no risk?

23 My understanding from what I've read, which
24 may not be correct, but that an interim removal
25 action is only carried out when there is some

1 immediate risk.

2 MS. LINDA HOUSTON: I'd like to respond to
3 that again. This is Linda Houston again.
4 Actually it can be carried out if there is
5 immediate risk, if there has been a release, but
6 it also can be carried out if there is a potential
7 human health or environmental release.

8 MS. ANN ROBERTS: I think I would just,
9 having looked through the documents for several
10 years that it just seems a sudden coincidence that
11 you are now concerned about the risk of this
12 particular drum trench when it sat there for 20
13 years. And if there's no evidence that there is
14 material in the surface soils, why the sudden rush
15 to suddenly clean this up?

16 MS. ARLEEN KREUSCH: Thank you for that
17 comment, Ann, and did you have another question on
18 something else?

19 MS. ANN ROBERTS: Sorry. I lost my train of
20 thought, but yes. Could you go back to the slide
21 which showed the uranium plumes. I wanted to ask
22 what the investigation was likely -- I was wanting
23 to see the one in the northwest corner of the
24 NFSS. Right. That particular plume. What is the
25 intention of -- what are you going to do to

1 investigate that? And the reason I am asking that
2 is because from the work that the RAB has done
3 looking at historical documents, in particular Dr.
4 Beck, who chairs our radiological committee, he
5 has actually identified a railway line which runs
6 through that plume and then continues up
7 northwards through the vicinity shops and our
8 concern is that we know that the vicinity shops
9 where, the main areas where the nuclear
10 reprocessing waste from Knoll's Atomic Power
11 Laboratory was stored for several years, and we're
12 assuming that given the history of that particular
13 area which is included in the NFSS that if you
14 continued northward, you will continue to see that
15 plume because of spillage from the handling of the
16 KAPL waste. So again, this comes back to the
17 vicinity properties. There is a likelihood of
18 contamination.

19 We went to the trouble of looking back at the
20 1972 remediation effort and the 1980s remediation
21 effort, and that particular area, the vicinity
22 shops, was not even surveyed. So the 1980s DOE
23 survey says there is no history of waste storage
24 or disposal on vicinity property X, which is
25 totally incorrect. So are you going to be looking

1 at the vicinity shop area where the rail line was.
2 Are there any plans yet of what you're going to
3 do?

4 MR. TOM PAPUDA: Could I interject just for a
5 quick second? Tom Papuda, New York State DEC,
6 Albany. As far as I was ever concerned, that
7 particular plume up in there didn't have anything
8 other than uranium probably in it, is that the
9 fact? Is that the case. So there is a major
10 disconnect there because we all know that KAPL
11 waste, a majority of it was highly concentrated in
12 cesium so you'd expect to see cesium.

13 If we're not seeing that, it's a big leap to
14 make to think that that plume up there in the
15 northwest corner somehow related to KAPL waste and
16 that, you know, this material was spilled out all
17 along the rail line. I find that kind of
18 ludicrous to make that leap like that. We've
19 never seen any cesium up in these plumes anywhere.
20 So how is that related? I'd like to understand
21 how that could be a possibility.

22 MS. ANN ROBERT: Ann Roberts, and I'd like to
23 respond to that. I think in our evaluation of the
24 KAPL waste one of the oversights which came to our
25 attention was the lack of analysis, the strontium-

1 90 in groundwater. We believe having looked at
2 several documents that strontium-90 is much more
3 likely to migrate down into the groundwater
4 whereas cesium-137 is likely to bind to the soil
5 and sit on the surface. And if strontium-90 was
6 not looked for, and I don't believe it was, the
7 limited analysis for strontium-90, the detection
8 limits were set that much higher than they were
9 for cesium-137 anyway. So that I think there is
10 good reason to, if you are going back in that
11 area, to actually add strontium-90 to the list of
12 groundwater analytes that you're going to look
13 for. And I don't believe that's been addressed.

14 MS. MICHELLE RHODES: Thank you for your
15 comment, Ann. This is Michelle Rhodes. As Tom
16 mentioned, the plume in the northwest area is
17 uranium. Obviously there has been documentation
18 that KAPL waste was stored in that vicinity and
19 just to the north of it, which is vicinity
20 property X. As part of the Remedial Investigation
21 Addendum we have, the scope basically reads, you
22 will install 23 sample locations.

23 It's not specific at this point. But what we
24 did was, we took the comments we received from the
25 RI and made it an appendix to our scope and say,

1 these are your objectives with these locations.

2 So what we plan on doing specifically in that
3 area is, obviously we want to define the off-site
4 extent of that plume and once we do, we want to
5 monitor it. We envision it becoming part of our
6 environmental surveillance program. With the
7 documentation that was forwarded to us, we will
8 definitely be adding cesium in that location. I
9 just wanted to follow up. We actually did follow
10 up on your original comment on the strontium and
11 plutonium issue in groundwater.

12 As part of the environmental surveillance
13 program we took the three groundwater wells which
14 had cesium detects in them and sampled them for
15 plutonium and strontium just to see if there was
16 any, you know, we used those as kind of a worst
17 case scenario. If it was going to be anywhere, it
18 would be there. And they were non-detect.

19 So just so we really did do some strontium
20 testing in groundwater although it was limited, as
21 part of our follow-up environmental surveillance
22 portion. But we can definitely add strontium --
23 I'm sorry, cesium to the list of -- and strontium
24 to the list of constituents that we look for in
25 groundwater in that off-site area.

1 MS. ANN ROBERTS: Can I just respond briefly?

2 I noticed in the handout which covers the addendum
3 that you were adding various other analytes to the
4 environmental surveillance for the NFSS, the waste
5 containment structure. That's a much more
6 extensive list because you've got strontium-90
7 there, you have technetium. But what you're
8 saying is for this particular delineation of the
9 plume, you're not doing all of the analytes that
10 you're doing for the NFSS?

11 MS. MICHELLE RHODES: For that location the
12 original sample will have a full suite analysis.
13 The follow-up is part of the environmental
14 surveillance program, the parameters that we'll
15 use will be based on those results. So basically
16 we do a full suite start and whatever pops up as a
17 detection, obviously uranium we expect to be
18 there, will be pursued as part of the ongoing
19 environmental surveillance.

20 MS. ANN ROBERTS: Could you just define what
21 full suite is with respect to radiological, what
22 you will be looking for in those wells.

23 MS. MICHELLE RHODES: Off of my head I would
24 say osso spectroscopy, so you would identify
25 uranium and thorium. We would look for radium.

1 We would do the cesium. Again the spec covers a
2 lot more and I'm not a health physicist so I might
3 need some help here. We also do gamma spec so I'm
4 not sure. Cobalt.

5 MR. TOM PAPUDA: Yeah. Cobalt and cesium.
6 You know, I mean, the protection limits for stuff
7 like that in water is not that great, but if it's
8 there, you know, I mean if they count
9 appropriately they can see it, but I mean, if it's
10 there at any significant level above background it
11 should be able to be discerned.

12 MS. MICHELLE RHODES: It's basically for all
13 the constituents we look for as part of the
14 Remedial Investigation would be pursued.

15 MS. ANN ROBERTS: Can I make one last point
16 and then I'll be quiet? What we found in looking
17 at some remedial surveys that had taken place in
18 the past is that where you had cesium-137 and
19 strontium-90 from the cattle waste, they didn't
20 remain together. So there is a suggestion that
21 the strontium-90 migrates differently to cesium-
22 137. So I wouldn't expect if you have sampled
23 previously and found cesium-137, I don't think you
24 can anticipate finding strontium-90.

25 I think what you would have to do is go back
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1 to areas where you knew there was a spill or had
2 been identified as being an area of a spill, and
3 actually used that to do some subsurface sampling
4 and test the groundwater in that area to see if
5 the strontium has migrated down and is below where
6 the cesium was originally. So I think that's a
7 piece of information you should use in your plans
8 to evaluate that plume.

9 MS. MICHELLE RHODES: And that's very true.
10 We have detected cesium independent from plutonium
11 and strontium on the site. I'm not sure how much
12 of that is associated with the cap and how much
13 might be associated with the University of
14 Rochester burial area. But definitely this area,
15 I agree based on the past activity, would be more
16 suspect and therefore a better indicator of if
17 there were a potential that's where it would be.

18 MS. ARLEEN KREUSCH: Thank you, Ann. Anyone
19 else with any questions? Nils.

20 MR. NILS OLSEN: It's not a question but I
21 guess since it's a public meeting, it's more of an
22 observation, and I just want to express my
23 disappointment that after two meetings with
24 virtually every elected official from this part of
25 Niagara County including representatives from

1 Senator Schumer that we still find ourselves in a
2 position where the people that have been involved
3 in this in this community, the people with the
4 technical expertise are reacting to your
5 presentation rather than having discussions with
6 you in a collaborative manner prior to this
7 opportunity. I really hope that at some point
8 we'll stop wrangling over official roles of
9 community involvement and just try to create a
10 system where this sort of involvement can occur in
11 a more timely and useful fashion than it's likely
12 to do in a meeting like this.

13 MS. ARLEEN KREUSCH: Thank you for that
14 comment, Nils. There's no questions? On the
15 Feasibility Study approach, any comments or
16 questions on the approach that we're going to take
17 for the Feasibility Study? Ann?

18 MS. ANN ROBERTS: I hesitate to monopolize
19 the microphone but if nobody else is going to
20 speak, then I think I'd rather use the time. On
21 the Feasibility Study one of the RAB's concerns is
22 that you don't really have any real data as to
23 where the residues are located in the interim
24 waste containment structure. You know where they
25 were originally, but where are they today? Have

1 things moved? And there seems to be a total
2 absence of that sort of data, and I can appreciate
3 that you are reluctant to breach the cap, but
4 there doesn't seem to be any indirect information
5 regarding the area to the south because, I assume
6 because of the amount of metal in there, that
7 won't allow some of your electromagnetic
8 techniques to work. So it just seems illogical to
9 me that you can be moving on to the Feasibility
10 Study when you don't have enough data.

11 MS. MICHELLE RHODES: We do have, as you
12 mentioned, some of the as builds of how exactly
13 the Department of Energy put the waste into these
14 former foundations that used to be part of the
15 freshwater treatment plan of the LOOW.

16 So as far as the movement goes, it was
17 helpful to us for out look into the Feasibility
18 Study to know that it wasn't just a pile of K-65
19 residue. It was actually contained within the
20 building at the time of placement. So any
21 shifting, settling likely occurred, the extent to
22 which we don't know fully. However, in the
23 Feasibility Study we're looking at alternatives to
24 address the cell and the feasibility of
25 implementing them and at this point we believe we

1 do have enough information even though there will
2 always be uncertainty associated with that. We
3 know the general area in which they were placed.
4 For example, you know, we're looking at a removal
5 of the K-65 as one of our options. You know, we
6 know the K-65 is buried within Building 411.

7 Are we going to just take one of the bays
8 that we think the K-65 is located in? No. We
9 would assume that we'd take the whole building and
10 anything subsequent to that dig. Another one is a
11 partial removal of the residues, so we would
12 remove the K-65 entirely and also some of the
13 other residues on-site which are also stored
14 within building foundations. One of them
15 obviously is complete removal. So I think from at
16 least looking at the alternative sampling, we have
17 what we need for the Feasibility Study.

18 If you look at, say a removal option is
19 selected, would we have enough information for a
20 design? No. In that case we would consider
21 collecting more information from the cell. It
22 would make more sense at that time to have more
23 information for the actual design. But at this
24 time when we're still in the planning phases, we
25 believe that we do have enough information to

1 proceed, although there is definitely uncertainty
2 associated with it.

3 MS. ARLEEN KREUSCH: Ann. Anyone else.

4 MR. TOM PAPUDA: I think as somebody who has
5 worked for the State overseeing these FUSRAP
6 projects now for 10 plus years, I can tell you
7 that we're fortunate with the Niagara Falls
8 Storage Site in that we do have a certain amount
9 of as-builts. On other projects we've always come
10 to the conclusion that you can sit there and
11 study it to death and then when you put the first
12 bucket in the ground the rules usually end up
13 changing somewhat. So I think we're pretty
14 fortunate here, and like Michelle said, I mean,
15 when the time comes, if they do choose to do any
16 removal, partial or full or whatever, that's when
17 the rubber's really going to hit the road and I
18 think that, you know, we can sit there and we can
19 pontificate about this all night as far as where
20 things are and all that, and it may come down to
21 the day when we finally do get to put the bucket
22 in the ground and do that. And it's going to be a
23 major undertaking and I think that's where the
24 focus is going to really have to be because that's
25 going to be a significant project that nobody's

1 undertaken other than pulling the materials out of
2 Fernold. So this is not something that's going to
3 be taken lightly I'm sure, and I'm sure the Corps
4 can do a good job on it.

5 MS. ARLEEN KREUSCH: Thank you, Tom. Guy.

6 MR. GUY ZACZEK: My name is Guy Zaczek. It
7 goes along exactly what Tom said and what Michelle
8 was talking about. There were five other sites
9 that were built that were TNT sites. And the one
10 thing that I found out about World War II, once
11 you had a set of plans, they were cookie cutters.
12 The same buildings you see in New York City are
13 the same buildings you see in Boston, et cetera,
14 et cetera. It sounds kind of like common sense,
15 okay. There was a shortage of men. There really
16 was. And men were draftsmen. So once you had one
17 set for TNTs they were going to just take those
18 prints and kind of plop them however they could on
19 the land over and over again.

20 I totally agree that when you dig in the
21 ground you're going to find something different
22 that was unique to the area, we went around the
23 boulder. And we do have as-builts as such. Okay.
24 But I think it would actually be more helpful to
25 see maybe the as-builts, if they exist, for some

1 of these other three or four sites, because it
2 would give you a little bit more of a road plan.
3 It would tell you why they're using a 42 inch pipe
4 coming off the Niagara River, et cetera, et
5 cetera. And potentially, okay, where they ran the
6 fire pipes, okay, where they ran the potable
7 water, et cetera, et cetera. So you have less of
8 those surprises. Okay. Thank you.

9 MS. ARLEEN KREUSCH: Thank you, Guy.
10 Additional questions or comments? Nona McQuay.

11 MS. NONA McQUAY: Yes. My name is Nona
12 McQuay and I am on the LOOW RAB and have been
13 since the inception with the US Army Corps of
14 Engineers. When we look at the Feasibility Study
15 I am assuming that costs of the alternatives will
16 be considered, and it's very hard for me to
17 understand how you can plan costs when you're
18 looking at maybe running into surprises when you
19 do put that first bucket in the ground or
20 whatever. In other words, if you can't
21 characterize the waste containment site at this
22 point in time, how can we come up with feasible
23 alternatives, particularly costwise, because those
24 of us in the community feel that it's going to
25 come down to money in the end, and we don't want

1 to say, well, this cost could be an overrun of a
2 huge magnitude because we don't know what we're
3 getting into. Do you have any comments on how the
4 Feasibility Study will cover that without
5 characterizing the interim waste containment
6 structure?

7 MS. ARLEEN KREUSCH: Okay. Thank you. Joe,
8 do you have enough tape to get the response to
9 this? Okay. And then he's going to change tapes
10 after Michelle responds.

11 MS. MICHELLE RHODES: Okay. Thank you for
12 your comment. One of the things that we look at
13 in the Feasibility Study is cost. The costs that
14 are in the Feasibility Study, however, are not
15 very -- there are some assumptions that can be
16 made. They're not as specific as costs for
17 remedial design. So basically we have to make
18 some assumptions in our cost estimate in the
19 Feasibility Study to account for a lot of the
20 uncertainty. Just to mention, too, once we
21 develop the alternatives for the Feasibility Study
22 we are going to be screening them with the nine
23 CERCLA criteria.

24 The first is, you know, it has to be
25 protective of human health and the environment.

1 Anything that is not is not considered past that
2 screening point. The next is, it has to be
3 protective of our applicable requirements. If it
4 is not, it will not be considered any further.
5 There's other weighing criteria of which cost is a
6 consideration. Also, the long term effectiveness
7 of the alternative being suggested, the short term
8 effectiveness, is it even, are you able to
9 implement it. And then also State and community
10 acceptance. So cost is one of the factors we look
11 at when screening these different alternatives in
12 the Feasibility Study but they're also weighed by
13 these other factors as well and obviously if it's
14 not going to be protective of human health and the
15 environment and not meet regulation it won't be
16 considered. So the cost basically is a rough
17 estimate that is typically used in Feasibility
18 Studies. The actual more detailed cost estimate
19 would require, additional sampling is usually done
20 during the remedial design phase.

21 MS. KAREN KEIL: (Inaudible).

22 MS. ARLEEN KREUSCH: Karen, we can't hear
23 you.

24 DR. KAREN KEIL: The EPA, the guidelines
25 underlying Feasibility Studies indicates that the
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1 costs only have to be accurate I think it's to
2 within like 30% or 50% because it's expected to be
3 an estimate, and really the purpose of the cost
4 estimate in the F.S. is not to get an exact cost
5 that you use for design and planning, but it's
6 more to get like a comparable cost, to compare
7 costs across alternatives. So it's expected to
8 have some kind of uncertainty associated with it.
9 That's standard for a Feasibility Study.

10 So you can compare, you know, towards
11 magnitude, differences in costs. That would help
12 you weigh the alternatives.

13 MS. ARLEEN KREUSCH: Okay. Joe needs to
14 change his tape so I'm just going to pause
15 everybody for a second while he --

16 (Off the record.)

17 MS. ARLEEN KREUSCH: Nona, did you have
18 additional follow-up for that one?

19 MS. NONA McQUAY: Just that it's not very
20 reassuring to know that the final cost could, for
21 complete removal of the IWCS could bloom because
22 of lack of understanding as to whether that
23 bathtub leaks.

24 DR. KAREN KEIL: I mean, that's also a good
25 point. I'm not really the person in my office to

1 discuss the cost estimating process. That's not
2 my area of expertise. But I do want to point out
3 that we have recently started doing our cost
4 estimates a little differently where we look at
5 uncertainties in each of the steps, you know, that
6 we are looking at for the remedial action, and
7 those uncertainties then are factored in to the
8 overall cost. So when there is more uncertainty
9 then the cost will grow to account for the
10 uncertainty. So --

11 MS. MICHELLE RHODES: I guess to add about
12 the cost perspective, Bill Kovaleski (sic)
13 couldn't be here tonight, and the reason that he
14 couldn't is because he's briefing the assistant
15 secretary of the Army and Civil works on this
16 project to make them aware of the potential future
17 cost impacts so that as far as planning purposes
18 they can be aware of what might be coming up.
19 With our new approach in forwarding the Interim
20 Waste Containment Structure as a priority, now
21 once we get those Feasibility Study cost
22 estimates, you know, Congress will get a range of
23 possible costs associated with each alternative.
24 It will be a good communication tool.

25 Obviously our budget infuser ap is about \$140
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1 million a year. Obviously not all that goes to
2 the Buffalo District and certainly not all that is
3 the Niagara Falls Storage Site but the, obviously
4 we're all aware that complete removal costs would
5 be in excess of that. So he is communicating way
6 up front these issues. We're hoping that cost is
7 a factor of the factors that we look at. So we're
8 trying to look at this very, I guess neutrally and
9 go through the process and let it work as it's
10 intended.

11 MS. ARLEEN KREUSCH: Thank you. Nona, does
12 that answer further? Okay. Additional questions.
13 Ann, any further questions?

14 MS. ANN ROBERTS: I apologize if I'm hogging
15 the microphone, but could you put up the slide
16 that shows the different alternatives. Was there
17 a slide that --

18 MS. HALLIE SERAZIN: The one for the IWCS?

19 MS. ELLEN RAGER: I think you verbally went
20 through that, Hallie. I'm not sure if there was a
21 slide.

22 MS. ANN ROBERTS: Maybe there isn't a slide.
23 Did you say what the alternatives are?

24 MS. HALLIE SERAZIN: Yeah, I think that I --

25 MS. ANN ROBERTS: Did you say what the
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1 alternatives are for -

2 MS. HALLIE SERAZIN: I did. I probably --
3 There is a whole list of proposed alternatives.

4 MS. ANN ROBERTS: How many alternatives were
5 there?

6 MS. ARLEEN KREUSCH: Are they on a poster, I
7 can go grab the poster.

8 MS. HALLIE SERAZIN: They are on a poster.

9 MS. ANN ROBERTS: Thank you.

10 MS. MICHELLE RHODES: You're not talking
11 about the operable units. You're talking about
12 the alternatives.

13 MS. ANN ROBERTS: For the Interim Waste
14 Containment Structure.

15 MS. MICHELLE RHODES: Okay. I don't think we
16 have a poster on the alternatives. I think that
17 was something that we mentioned.

18 MS. ANN ROBERTS: Could somebody read them
19 out, because I can't see. Sorry. Thank you.

20 MS. ARLEEN KREUSCH: Okay. For the Interim
21 Waste Containment Structure the alternatives being
22 considered are listed as removal of the entire
23 Interim Waste Containment Structure contents with
24 off-site disposal, removal of all residues except
25 the R-10 pile with off-site removal, removal of K-

1 65 residues with off-site disposal, removal of
2 residues with placement in new on-site long term
3 storage facility, limited action, which is
4 elaborated further as enhance the current Interim
5 Waste Containment Structure, no further action
6 with site controls and maintenance. I'm guessing
7 that means continued, right. No further action
8 has the --

9 MS. HALLIE SERAZIN: No further action is
10 continuation of the maintenance and monitoring.

11 MS. ARLEEN KREUSCH: And then the last one is
12 no action, which is required under CERCLA.

13 MS. HALLIE SERAZIN: Right.

14 MS. ARLEEN KREUSCH: But you stated that that
15 was not going to be --

16 MS. HALLIE SERAZIN: It would not be
17 applicable, correct.

18 MS. ARLEEN KREUSCH: Okay. Thank you,
19 Hallie.

20 MS. ANN ROBERTS: My question regarding that
21 was, given the evaluation which has gone before by
22 the National Academy of Sciences that says it's
23 not safe to leave the K-65 in its present
24 location, that really it is high level waste in
25 terms of its activity, and it should be removed to

1 some remote place. Why, why are you actually even
2 considering the possibility of leaving it where it
3 is, as an option?

4 MR. TOM PAPUDA: I think -- this is Tom
5 Papuda from DEC. I think in any remedial
6 investigation regardless whether it's EPA or
7 anybody, there's always going to be a myriad of
8 proposed ideas for the actions that are going to
9 take place on any given site.

10 It's just to give you a range. It's not
11 because they want to say that that's going to be
12 the one they're going to go for. It's just that
13 you have to look at your range of options because
14 removing certain source terms may reduce the risk
15 enough that if they go and look at it on a risk
16 basis that maybe things will be okay. The K-65
17 being the hottest material that's in there has
18 almost 600,000 picocuries per gram of radium in
19 it. That's the major player in this. And that's
20 why they have to look at it like that, because
21 yeah, frankly, you know, right now Bill Kovalski
22 is briefing the deputy secretary or assistant
23 secretary of the Army. It's going to be sticker
24 shock. Let's be honest here.

25 I mean, we're talking about multiples of the
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1 annual FUSRAP budget for the entire country.
2 We're not just talking about a few million dollars
3 here. We're not talking about the Linde project
4 that's gone over \$100 million since it was started
5 in the year 2000. We're talking about a major
6 undertaking here. And yeah, there's going to be
7 sticker shock, so there has to be a range that the
8 most logical, the most protective, and the most
9 cost effective remedial design is the one that
10 comes in the end. I mean, we have to be
11 reasonable about this. You know, the numbers that
12 are being floated around and been floated around
13 for years range into the billions. So take that
14 in comparison to the \$140 million that Michelle
15 said was the annual FUSRAP budget for the entire
16 country. We're talking about a multiple year
17 project. We're probably talking about, it could
18 be, you know, depending on how money is
19 programmed, it could be a decade or more.

20 We're talking about something that's not
21 going to happen tomorrow either. We're talking
22 about something that's going to be a long time in
23 the making. There are a lot of FUSRAP sites out
24 there. The way the Corps programs money is
25 already well in advance of, you know, this is

1 someplace down the line. So we can't sit there
2 and worry about whether or not they're going to
3 sit there and thumb their nose at everybody and
4 say, no, we're not going to take anything out of
5 there. Let's be realistic here. They have to
6 look at all the options and that's what they're
7 doing. It's not because they're playing favorites
8 or they're doing it on purpose. This is the way
9 the EPA and every other agency that does these
10 remedial actions under CERCLA has to perform their
11 duties. That's the way they're compelled to do
12 it.

13 MS. MICHELLE RHODES: I guess just to follow
14 up, you mentioned the high level, and that will
15 play off of our, we're doing an ARAR tech memo, so
16 that's where we pick our ARARs which will sort of
17 characterize what type of waste it is. So that
18 will be part of our Feasibility Study tech memos
19 which everybody will have an opportunity to
20 comment on. The National Academy of Science's
21 recommendation, that is our partial removal
22 scenario. We do have a scenario that modeled
23 after their recommendations. And I guess just,
24 you know, to relay about the costs, if we weren't
25 seriously looking at all these alternatives, you

1 know, Bill wouldn't be at the ASACW right now. I
2 think that we need to communicate the full range
3 of what we're looking at, and this Feasibility
4 Study is going to be a communication tool, it
5 really is.

6 MS. ARLEEN KREUSCH: Thank you. Michelle,
7 just for the audience, you used the ARAR acronym.

8 MS. MICHELLE RHODES: I'm sorry.

9 MS. ARLEEN KREUSCH: And I'm not sure
10 everybody know what that is. I know Hallie
11 explained it a little bit in the presentation but
12 you could -- could you just elaborate a little bit
13 further on that.

14 MS. MICHELLE RHODES: It's applicable
15 relevant and appropriate requirements so basically
16 you have a certain type of waste and there's
17 certain regulations for different types of waste.
18 So it's trying to pick what regulation you would
19 apply to your waste stream.

20 MS. ARLEEN KREUSCH: Thank you. Ann.

21 MS. ANN ROBERTS: One final thing. The
22 contents of the Interim Waste Containment
23 Structure documented. There is also contained
24 within that some material from prior cleanups on
25 some of the vicinity properties. I seem to think

1 that there were some materials actually placed
2 within the Interim Waste Containment Structure as
3 opposed to the R-10 pile from one of the prior
4 cleanups. And it might have been the 1970s.

5 But if that is the case, then are you
6 concerned that the Interim Waste Containment
7 Structure might also contain some of the KAPL
8 waste and the contaminants which are very
9 different from the uranium or extraction residues.
10 This is going to be nuclear reprocessing waste.

11 MS. MICHELLE RHODES: That's a very good
12 comment. The good thing is that with the KAPL
13 waste, a lot of it was shipped back to Oakridge,
14 but obviously we know that some of the waste was
15 incinerated on site, so we do see remnant
16 contamination associated with that. But the
17 quantity of that with respect to the rest of the
18 residues is very minimal. However, that is
19 something that we're going to have to consider
20 when we look at ARARs. You know, there's -- you
21 know, you mentioned the high level waste.

22 A lot of reactor waste is classified as high
23 level waste. But a lot of the other residues may
24 not have the same classification. So it's
25 something to consider. I'm not sure it's going to

1 be something that drives our ARAR but it
2 definitely will impact our disposal. For example,
3 Waste Control Specialists is a landfill in
4 Andrews, Texas and Fernold, their K-65 is right
5 now being temporarily stored there. They're
6 creating a new cell for it and -- I just lost my
7 train of thought. Oh, disposal. So they have
8 certain, what's called WACs or waste acceptance
9 criteria. So their cell is actually what's called
10 an 11A2 cell. It's just a type of classification
11 and one of the things that they do not like in
12 some of their low level cells, they don't want any
13 detections of plutonium. So in cases like that,
14 it might not be as much of an ARAR issue as it
15 would be a disposal issue. We would need to
16 ensure to them that on average, or a composite
17 sample of what potentially could be removed would
18 not contain that. So I think that's something
19 definitely we need to consider in our Feasibility
20 Study.

21 MS. ARLEEN KREUSCH: Thank you, Ann. Guy,
22 you're looking like you had another note.

23 GUY ZACZEK: I'm glad I have her here.

24 MS. ARLEEN KREUSCH: Any other questions? Go
25 ahead.

1 MS. BONNIE GUCKIN: I just have one question.
2 Bonnie Guckin. I'm just a resident of Youngstown.
3 No specialties.

4 MS. ARLEEN KREUSCH: Could you spell your
5 last name so they can put it in the record.

6 MS. BONNIE GUCKIN: G-U-C-K-I-N. When you
7 talk about, let's say you do remove everything
8 from the site and we talk about remote locations.
9 Texas is also thrown out there, and you know,
10 humans live there as well. Where would this waste
11 go? Would we just be giving it to someone else?
12 I mean, I realize we as a community all think, oh,
13 we've got to get it out of here. And I did talk
14 to someone saying, would it be more of a risk to
15 us as a community, to the people we would be
16 dragging it through, let's say by rail, and where
17 it would end up, would that be more of a risk than
18 making a new containment site where it is?

19 MS. MICHELLE RHODES: That's a good question.
20 As far as the transportation risk, you know, yes,
21 transportation poses risk. I think the biggest
22 risk we've had as far as, we in general, in the
23 waste transportation industry I guess you could
24 say, is accidents, you know, spills. As far as
25 where, that's one of the objectives of our waste

1 disposal option Fernold lessons learned tech memo.
2 Right now there currently is no landfill that can
3 accept this type of waste. However, as Fernold is
4 kind of progressing, they are likely to be
5 permanently housed in the Waste Control Specialist
6 landfill shortly. So that may be something that
7 is feasible to us in the future. Also Energy
8 Solutions, which is in Clive (sic), Utah has an
9 1182 cell that might be an option for us. The
10 reason that we can't access it right now is the
11 radium waste acceptance criteria is too low.

12 We don't know if we could meet something like
13 that. It's about 10,000 it's called picocuries
14 per gram. The new facility in Andrews, Texas is
15 100,000 so it would just be a matter of them
16 amending their waste acceptance criteria, which
17 has happened. It's not totally unlikely. So we
18 definitely in this tech memo wanted to research a
19 little more into maybe potential other available
20 locations, document some of the limitations
21 associated with their use, and that's sort of
22 where we're headed with that tech memo.

23 MR. TOM PAPUDA: I think the other thing,
24 too, is the Fernold waste was transported down to
25 WCS in very specialized engineered containers.

1 This is not going to be a situation like we've
2 seen at Linde or at Ashland where they just throw
3 it in rail cars and cover it up and run it down
4 the road. This is going to be a very, very highly
5 choreographed engineered endeavor. These
6 containers, we got a presentation on a while back,
7 are actually designed to reduce the dose, to
8 mitigate radon release, all these sorts of things
9 that are associated with this waste. So this is
10 not something that's going to be like, even if
11 like let's say they have to take it by truck to
12 the nearest rail siding and load it on trains from
13 there, you know, if one of these containers goes
14 and rolls off or they get in an accident or
15 something like that, there's probably not going to
16 be any spillage. These things are designed
17 purposely to contain this stuff under even
18 catastrophic situations. They have to meet
19 certain DOT requirements and all that in order to
20 be used as specialized containers.

21 There's certain requirements as part of DOT
22 regulations for the transport of radioactive
23 materials, too. So this is not going to be
24 something again that's going to just happen by the
25 bucketful and thrown into a rail car or gondola or

1 anything like that. This is going to be really
2 something that's going to be again, like I've said
3 before, a major undertaking.

4 But safety of the community during transport
5 and the safety of the workers during it via
6 whatever techniques may be employed if removal
7 does happen is going to be something that's going
8 to be really highly studied, I'm sure.

9 MS. MICHELLE RHODES: Just one other point to
10 make is, that's sort of why we have the Fernald
11 lessons learned is to take advantage from what
12 they learned. They did an incredible amount of
13 testing that we could really take advantage of.

14 I mean, they developed these steel casks,
15 these IP-2 containers. They shipped them two per
16 truckload, and like you said, if there was an
17 accident it would tumble off and you'd probably
18 stick it back on and there wouldn't be a spill
19 necessarily.

20 One of the things we also did in our
21 Feasibility Study process is ensure that some of
22 the Fernald contractors who had direct experience
23 with this waste were actually reviewing our tech
24 memos. So we're trying to capture as many lessons
25 learned from them as far as the removal option as

1 we can.

2 DR. KAREN KEIL: I want to add something to
3 your -- can you put up the slide with the tech
4 memos for the IWCS. So Michelle mentioned that
5 when we look at choosing our remedial alternative
6 in the F.S. we look at different we'll call them
7 balancing criteria. One is short term risk.
8 It's basically the short term impacts to human
9 health and the environment during the remedial
10 action itself. And that's why the first two
11 things that we're going to study, we're going to
12 develop a technical memorandum on are the radon
13 assessment and the radiological exposure
14 assessment. So we're going to look at potential
15 for radon release when we open up the cap and how
16 much radon can be released, can it expose the
17 workers or the surrounding community, and then
18 look at also other types of radiological exposure
19 like from gamma radiation. So we're going to
20 study those and look at what the short term risks
21 are to the workers and the surrounding communities
22 if we decide to open up the cap and remove the
23 residues or other parts of the IWCS. So we will
24 definitely take that into consideration. We weigh
25 whether or not to remove it or shore it up

1 somehow in place, make it more protected in place.

2 MS. MICHELLE RHODES: I've seen it work quite
3 well in the fact that we're, you know, obviously
4 collecting more RI data so you may say, well, why
5 have they started the Feasibility Study, they're
6 not done with the RI yet. The first three tech
7 memos are irrelevant to whatever data we collect
8 as far as the RI Addendum. You know, the radon
9 assessment is what it is. The dose is what it is.
10 It's more dependent upon the actual waste material
11 inside the cell than it is any kind of collection
12 around it.

13 MS. ARLEEN KREUSCH: Do you have a follow-up
14 question?

15 MS. BONNIE GUCKIN: Just one other question.
16 It's not always cynical. I'm not always -- if you
17 did find, let's say you got a lot more scientific
18 knowledge than I have, but let's say you do find
19 for us to open this up would be more of a hazard
20 to our small community than to leave it, would you
21 possibly leave what's there there? I mean, has
22 that ever happened? Obviously you've all worked
23 on sites like these before, I'm assuming.

24 Has it been more of a benefit to the
25 community to leave something like this alone than

1 to open it up?

2 MS. MICHELLE RHODES: I think that's where
3 community acceptance comes in as well. One good
4 thing about, in looking at this is, it is going to
5 release radon when it's open. It is going to have
6 a dose associated with it. But we do what's
7 called institutional controls.

8 When Fernold took their waste out, they
9 developed a -- they had it actually stored in an
10 above ground silo. They created a structure
11 around it and they actually removed it
12 robotically, and they had a radon abatement
13 system. So you can engineer around this.

14 You know, it doesn't mean that if it's going
15 to release radon we're just leaving it there.
16 It's an engineering problem. You just have to
17 figure out in the design how you will address the
18 risk associated with both the dose component and
19 the radon.

20 MS. BONNIE GUCKIN: Thank you.

21 MS. ARLEEN KREUSCH: Additional questions.
22 Nona.

23 MS. NONA McQUAY: I'd just like to make a
24 comment that those of us who have followed this
25 for some 30 years are not really just concerned

1 about our small community, which is a small
2 community, but we are poised on the end of New
3 York State and our effluents affect the Great
4 Lakes basin, which has millions and millions of
5 people and a fifth of the world's drinking water.
6 So it's not a small issue as to where these wastes
7 go and whether they stay. They need to go away
8 from such a large risk area. Thank you.

9 MS. ARLEEN KREUSCH: Thank you. Additional
10 questions or comments? Bill. Would you state
11 your name just for the --

12 MR. BILL CHOBOY: Bill Choboy, RAD member. I
13 live in Youngstown. I'd just like to say thank
14 you to the Corps for listening to our questions
15 and answering graciously. I think you did a
16 pretty good job. Ann has worked for years along
17 with others on researching what's there and it
18 hasn't been easy. She drove in here from
19 Wisconsin to appear here tonight and the people in
20 this community have been interested for a long
21 time obviously in what we have here and we want to
22 see it taken care of.

23 And again, I appreciate the answers that were
24 given by a number of people tonight, but I don't
25 like being lectured to as Mr. Papuda did. And I

1 don't think it's necessary. We have concerns and
2 we've spent a lot of time and effort trying to
3 research and work with the Corps of Engineers. We
4 have a problem and we want to see it taken care of
5 and we don't appreciate being lectured to. And
6 it's not the first time it's happened.

7 MS. ARLEEN KREUSCH: Thank you. Any
8 additional questions or comments? We do have
9 comment cards in the back also if anyone wants to
10 just put a question down on a comment card.
11 There's a basket back there you can put them in
12 and we will either write you a letter in response
13 to your questions or comments or we will put the
14 answer up on the website. And if there -- I'm
15 going to kind of do a going, going, gone.

16 Is there anybody else that has anything else
17 that they would like to comment or question on
18 tonight for this evening on this site? Okay.

19 Well, thank you very much for coming.
20 Remember that there's copies of the presentation,
21 copies of the DVDs of the last meeting in March
22 and the handouts are still all available. Thank
23 you.

24 (Meeting concluded.)

CERTIFICATE

I, RHETT L. BAKER, certify that the foregoing transcript of proceedings in the matter of US Army Corps of Engineers, Re: Niagara Falls Storage Site (NFSS) FUSRAP Public Workshop. Was recorded on a SONY 146 Confer Corder, and transcribed from same machine, and is a true and accurate record of the proceedings herein.

Signature _____

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