



Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

CERTIFIED MAIL

October 18, 2011

Mr. Thomas Carpenter
Hanford Challenge
219 1st Avenue South, Suite 120
Seattle, Washington 98104

Dear Mr. Carpenter:

FREEDOM OF INFORMATION ACT REQUEST (FOI 2011-01870)

Your Freedom of Information Act (FOIA) request dated September 7, 2011, was received in this office on September 13, 2011. In that letter you requested any and all records related to or generated in connection with a letter dated July 7, 2011, transmitting a U.S. Department of Energy (DOE) surveillance report sent to Mr. J.G. Lehew subject "Contract No. DE-AC06-08RL14788 – Transmittal of Surveillance Report Planning and Execution of Radiological Work (S-11-SED-CHPRC-PFP-002)." Specifically you requested:

1. "Any and all correspondence related to or generated in connection with this letter and/or Surveillance Report, regardless of author."
2. "Any and all memoranda related to or generated in connection with this letter and/or Surveillance Report."
3. "Any and all emails related to or generated in connection with this letter and/or Surveillance Report."
4. "Any and all drafts of the Surveillance Report referenced above."
5. "Any and all notes related to or generated in connection with this letter and/or Surveillance Report."

This is a partial response and enclosed are documents responsive to items 2, 3 and 5 of your request. We continue to review documents responsive to your request and will notify you when our review is complete. If you have any questions regarding your request, please contact me at our address above or on (509) 376-6288.

Sincerely,

A handwritten signature in black ink that reads "Dorothy Riehle".

Dorothy Riehle
Freedom of Information Act Officer
Office of Communications
and External Affairs

OCE:DCR

Enclosures

Demers, Joseph

From: Demers, Joseph
Sent: Monday, April 04, 2011 4:16 PM
To: Pangborn, Brenda
Subject: Work Package Candidates

Below are work packages that are potentially worth looking at the engineering input. The original stack contains mostly glove box demos and others are also mechanical. So the sample by be biased.

2Z-10-05648 – rm 172 Size reduction/chop shop
2Z-09-0664 – Removal of Conveyors HC-3 and HC-4
2Z-10-00184 – cut and dispose of PRF pencil tank assemblies
2Z-10-02068 – 242-Z Glovebox WT-3,4, and 5 and equipment removal
2Z-10-01158 – 26 inch process vac Phase 3

Depending on sample size desired the following would be next:

2Z-10-04397 – Glove box 179-6 and 179-9 removal
2Z-10-01149 – Transfer line removal between HA-7....
2Z-09-02122 – mechanical isolation and equip. removal HA-19

Regards,

Joe Demers

Certified Health Physicist, Certified Safety Professional
DOE Safety and Engineering Division
825 Jadwin MS A5-17
Richland, WA 99352
DOE-RL
(509) 376-0733

Demers, Joseph

From: Demers, Joseph
Sent: Thursday, February 10, 2011 9:02 AM
To: Pangborn, Brenda
Subject: SAC Call 2-10-11, Lack of Approved Alpha Analyst Calibration Procedure @ PFP

Brenda,

During today's SAC call, PFP reported that yesterday (2-9-11) they discovered that they did not have an approved procedure to calibrate the alpha analyst. Paraphrasing the report, the facility would run the software protocol and then check with the manufacturer to determine if the instrument was okay to use.

The project suspended use of the instrument pending an approved procedure and has an instrument tech from 100K coming to perform a calibration check using 100K's approved procedure. PFP's plans on adapting one of the other PRC's approved procedures and approving the new version as a PFP calibration procedure.

There is no CRRS in the system on this as of now.

Regards,

Joe DeMers

Certified Health Physicist, Certified Safety Professional
DOE Safety and Engineering Division
825 Jadwin MS A5-17
Richland, WA 99352
DOE-RL
(509) 376-0733

Pangborn, Brenda

From: Pangborn, Brenda
Sent: Thursday, June 02, 2011 3:57 PM
To: Bratvold, Tom

Tom, Curt

Please review the following. This is my understanding of what was stated at the meeting this morning. Please let me know if there is any mis-understanding.

As discussed in the meeting on June, 2, 2011, CHPRC has incorporated additional actions and measures to assure short term safety of work until corrective actions are institutionalized. These measures included:

- Completion of a Radiological Engineering Technical Evaluation to improve consistency in applying engineered controls for work.
- Improved use of containments that prevent worker exposure, by requiring the project Director of Radiation Protection, Industrial Hygiene, and Occupational Safety approval to use other controls where containment is not practicable.
- A Standing Operating Instruction requires a radiological engineering review of all medium and high risk work packages before work is released. The radiological engineering organization performs a walk down with the work team to ensure all the specific work activities are understood, and appropriate controls are incorporated into the work package for all activities.

Demers, Joseph

From: Jansons, Richard S
Sent: Monday, September 26, 2011 9:46 PM
To: Demers, Joseph
Subject: FW: Radiological Control Work Planning Radcon interviews

-----Original Message-----

From: Pangborn, Brenda [<mailto:Brenda.Pangborn@rl.doe.gov>]
Sent: Friday, February 11, 2011 4:48 PM
To: Welling, Mark J
Cc: Demers, Joseph W.; Jansons, Richard S; Parsons, Joe E.; Franklin, Alan K
Subject: Radiological Control Work Planning Radcon interviews

Our Team will be out there Monday morning at 8:00 AM, MO 32. I understand people are busy getting work organized first thing in the morning and we wish to respect the facilities needs.

Alan Franklin, will be available Monday and Tuesday, with intermittent availability thereafter.

Brenda and Joe: Monday, Tuesday, Thursday and Morning on Wednesday (need to leave by 10:30AM) Rick Jansons - intermittent Ed Parsons: Tuesday, Wednesday afternoon, Thursday, and Friday. On Friday, Ed wishes to observe work in RBA chop shop, with FR support.

Monday we will get individual schedules for the following week.

It would be good to start with the radiological control organization and we will look at an interview schedule for the rest of the organizations Monday.

Please schedule the following interviews for me (i.e., there cannot be any simultaneous interviews scheduled:

I would like to have the interviews of the three radiological work planners individually, M or T, to support Alan Franklin's schedule. He wants to observe to support his function as the owner of the procedures. Please schedule the interviews at their work locations so that they can show the team products (rad screening/AMWs, work packages...) that they have been working on. Please schedule one and a half - two hours each for the radiological work planners. Joe, myself, and Alan will attend those interviews.

Please schedule the RWP preparer and RWP preparer back-up (1 hour should be sufficient for each).

Please schedule ESH manager and acting RCM for Thursday.

Let's talk Monday about the 5 RCS schedule.

RCT leads and RCTs will likely be interviewed in the field, as we observe field work.

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Pangborn, Brenda

From: Pangborn, Brenda
Sent: Monday, March 14, 2011 5:14 PM
To: Pechin, Patricia A
Subject: RE: walkdown/ajha

What time is the HC-17 270Z Room 25 Walkdown then AJHA?

From: Pechin, Patricia A
Sent: Monday, March 14, 2011 10:20 AM
To: Pangborn, Brenda
Subject: walkdown/ajha

3/14/11 270Z Room 25 1300 AJHA to support Electrical Investigations

3/14/11 Pipe trench work MO-032 2:00 AJHA

3/15/11 ADS system removal AJHA 0800 2736ZB Lunchroom

3/15/11 HC-17 270Z Room 25 Walkdown then AJHA

This is what I have so far.

Pangborn, Brenda

From: Pangborn, Brenda
Sent: Monday, March 14, 2011 11:39 AM
To: Pechin, Patricia A
Subject: RE: walkdown/ajha

Thank-you.

From: Pechin, Patricia A
Sent: Monday, March 14, 2011 10:20 AM
To: Pangborn, Brenda
Subject: walkdown/ajha

3/14/11 270Z Room 25 1300 AJHA to support Electrical Investigations

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This is what I have so far.

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From: Pangborn, Brenda
Sent: Friday, February 11, 2011 4:48 PM
To: Welling, Mark J
Cc: Demers, Joseph; Jansons, Richard S; Parsons, Joe; Franklin, Alan K
Subject: Radiological Control Work Planning Radcon interviews

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Pangborn, Brenda

From: Pangborn, Brenda
Sent: Monday, February 07, 2011 8:31 AM
To: Demers, Joseph
Subject: FW: PFP Org Chart

FYI

-----Original Message-----

From: Schierman, Kerry
Sent: Monday, January 31, 2011 12:26 PM
To: Pangborn, Brenda
Subject: PFP Org Chart

Brenda,

Here is a link to the PFP Org Charts (I don't have a pdf). You have to paste it into your HLAN homepage to get it to open.

<http://prc.rl.gov/rapidweb/PFP-Closure/index.cfm?pagenum=37>

Work (PERT) teams are as follows:

- 1 - Hix (RMA/RMC Rooms 235B, 235A-1, A-2)
- 2 - Turner (PRF Gallery Gloveboxes)
- 3 - Aranda (PRF Canyon, Maintenance Glovebox)
- 4 - Kluherz (RMA/RMC Rooms 228C, 230A, B, C)
- 5 - Benore (A-Labs)
- 6 - Millman (A-Labs)
- 7 - Van Unen (Standards Lab)
- 8 - Garcia/Sewald (2736-Z/ZB)
- 9 - Massey (234-5Z Transfer Lines)
- 10 - Gill (RMA/RMC Rooms 232, 232A, 235A-3)
- 11 - Bertrand (RMA/RMC Rooms 235D, 234, 234A)
- 12 - Longanbach (PRF Canyon 2, Pencil Tanks)
- 13 - Bloom (Other PRF Gloveboxes)
- 15 - Evans (PPSL)
- 17 - Adair (242-Z)
- 18 - Swallow/Cordova (234-5Z Process Vacuum Piping)
- 19 - Dockter (Room 172 Size Reduction Facility)

There are no teams 14 and 16 right now.

Kerry

Pangborn, Brenda

From: Pangborn, Brenda
Sent: Monday, January 31, 2011 1:21 PM
To: Schierman, Kerry
Subject: RE: PFP Org Chart

Thank-you

-----Original Message-----

From: Schierman, Kerry
Sent: Monday, January 31, 2011 12:26 PM
To: Pangborn, Brenda
Subject: PFP Org Chart

Brenda,

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- 5 - Benore (A-Labs)
- 6 - Millman (A-Labs)
- 7 - Van Unen (Standards Lab)
- 8 - Garcia/Sewald (2736-Z/ZB)
- 9 - Massey (234-5Z Transfer Lines)
- 10 - Gill (RMA/RMC Rooms 232, 232A, 235A-3)
- 11 - Bertrand (RMA/RMC Rooms 235D, 234, 234A)
- 12 - Longanbach (PRF Canyon 2, Pencil Tanks)
- 13 - Bloom (Other PRF Gloveboxes)
- 15 - Evans (PPSL)
- 17 - Adair (242-Z)
- 18 - Swallow/Cordova (234-5Z Process Vacuum Piping)
- 19 - Dockter (Room 172 Size Reduction Facility)

There are no teams 14 and 16 right now.

Kerry

Pangborn, Brenda

From: Pangborn, Brenda
Sent: Friday, January 28, 2011 12:53 PM
To: Schierman, Kerry; Demers, Joseph; Jansons, Richard S; Parsons, Joe
Cc: Spets, James; MacAlister, Edward; Trine, Sandra
Subject: RE: OA 35412 High Airborne Contamination Levels in Room 172 Size Reduction Tent

Surveillance team:

Updated information: Ken McLain, verified with the project, that no airborne radioactivity calculations were performed. The project did not assess the consequences, in terms of estimating airborne radioactivity generated, of use of a circular saw for the cutting operation. With no airborne radioactivity estimate, you can not verify the appropriateness of the respiratory protection selected for the work. Ken McLain agreed that this was a violation of the company procedures for work planning.

The use of a DAC-hr quantity to stop work, gets people out timely before a huge uptake is given. However, work planning, with appropriate estimates of the airborne radioactivity levels expected, allows the project to select the appropriate work operation to mitigate the hazard. Here, we appear to be using trial and error to see if the work is appropriately controlled, in conjunction with an exit strategy to mitigate the consequence of improper planning.

This deficiency will be incorporated into our surveillance report on radiological work planning at PFP.

Brenda

From: Schierman, Kerry
Sent: Wednesday, January 26, 2011 3:28 PM
To: Pangborn, Brenda; Demers, Joseph; Jansons, Richard S; Almquist, Rodney; Mattlin, Ellen
Cc: Spets, James; MacAlister, Edward; Trine, Sandra
Subject: OA 35412 High Airborne Contamination Levels in Room 172 Size Reduction Tent

FYI...

Plutonium Finishing Plant Project

Kerry Schierman

Rpt #: 35412
Date Entered: 01/26/2011

PFP

Date Observed: 01/26/2011
Last Modified Date: 01/26/2011

Entry Type: ARRA

Include in CIR: No

Hours in Field:

Title:

High Airborne Contamination Levels in Room 172 Size Reduction Tent

Summary:

See below event discussion.

Issue Type: Event

Significance Level: 1

Statement:

High Airborne Contamination Levels in Room 172 Size Reduction Tent.

Discussion:

During cutting activities in the Room 172 Size Reduction Tent on January 25, a circular saw was used for cutting for the first time since very early in the size reduction process. It was reported to the FR that airborne radioactivity levels in the tent while using the circular saw were significantly higher (50,000 DPM on the fixed head sampler) than had been seen in the room since personnel had refined work practices using Nibblers and Sawzalls. Work was secured to avoid exceeding the Radiological Work Permit void limit of 57,000 DPM.

The FR was informed later in the day by the Radiological, Hygiene, and Safety Director that counts on lapel samplers of the workers in the tent were identified to be as high as 1.7 DAC-hrs. Two of the workers were put on bioassay to determine if an exposure had occurred.

Funct. Area:	Trend Code:	ISMS Funct.:	Causal Code:	
RP	RADCON-RADPRC	WORK	TalrdCntls	Issue Number: 9463

Pangborn, Brenda

From: Pangborn, Brenda
Sent: Wednesday, January 26, 2011 5:01 PM
To: Jansons, Richard S
Subject: RE: OA 35412 High Airborne Contamination Levels in Room 172 Size Reduction Tent

So why did the facility radiological control organization let them?

From: Jansons, Richard S
Sent: Wednesday, January 26, 2011 4:24 PM
To: Schierman, Kerry
Cc: Pangborn, Brenda; Demers, Joseph
Subject: RE: OA 35412 High Airborne Contamination Levels in Room 172 Size Reduction Tent

Kerry,

Thanks. I knew they wanted to go back to circular saws, even though airborne levels increase with that tool.

Rick

From: Schierman, Kerry [<mailto:Kerry.Schierman@rl.doe.gov>]
Sent: Wednesday, January 26, 2011 3:28 PM
To: Pangborn, Brenda M.; Demers, Joseph W.; Jansons, Richard S; Almquist, Rodney A; Mattlin, Ellen
Cc: Spets, James E.; MacAlister, Edward; Trine, Sandra
Subject: OA 35412 High Airborne Contamination Levels in Room 172 Size Reduction Tent

FYI...

Plutonium Finishing Plant Project

Kerry Schierman

Rpt #: 35412
Date Entered: 01/26/2011

PFP

Date Observed: 01/26/2011
Last Modified Date: 01/26/2011

Entry Type: ARRA

Include in CIR: No

Hours in Field:

Title:

High Airborne Contamination Levels in Room 172 Size Reduction Tent

Summary:

See below event discussion.

Issue Type: Event

Significance Level: 1

Statement:

High Airborne Contamination Levels in Room 172 Size Reduction Tent.

Discussion:

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was secured to avoid exceeding the Radiological Work Permit void limit of 57,000 DPM.

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Funct. Area:	Trend Code:	ISMS Funct.:	Causal Code:	
RP	RADCON-RADPRC	WORK	TalrdCntls	Issue Number: 9463

Pangborn, Brenda

From: Pangborn, Brenda
Sent: Wednesday, January 26, 2011 4:37 PM
To: McLain, Kenneth W (Ken)
Subject: FW: OA 35412 High Airborne Contamination Levels in Room 172 Size Reduction Tent

FYI

From: Pangborn, Brenda
Sent: Wednesday, January 26, 2011 4:11 PM
To: Schierman, Kerry
Cc: Trine, Sandra; MacAlister, Edward
Subject: RE: OA 35412 High Airborne Contamination Levels in Room 172 Size Reduction Tent

Kerry,

Can you get a copy of the radiological survey of the glove box being cut at the time of the event (i.e., do they have the contamination levels (total, loose) inside the glovebox where the cuts were planned for making airborne estimates) and the documented airborne radioactivity estimates for the work based on approved work operations (i.e., use of skill saw...).

Based on the fact that they keep getting it wrong, we need to see how they decided it was safe (adequate respiratory protection) to use the circular saw.

Brenda

From: Schierman, Kerry
Sent: Wednesday, January 26, 2011 3:28 PM
To: Pangborn, Brenda; Demers, Joseph; Jansons, Richard S; Almquist, Rodney; Mattlin, Ellen
Cc: Spets, James; MacAlister, Edward; Trine, Sandra
Subject: OA 35412 High Airborne Contamination Levels in Room 172 Size Reduction Tent

FYI...

Plutonium Finishing Plant Project

Kerry Schierman

Rpt #: 35412
Date Entered: 01/26/2011

PFP

Date Observed: 01/26/2011
Last Modified Date: 01/26/2011

Entry Type: ARRA

Include in CIR: No

Hours in Field:

Title:

High Airborne Contamination Levels in Room 172 Size Reduction Tent

Summary:

See below event discussion.

Issue Type: Event

Significance Level: 1

Statement:

High Airborne Contamination Levels in Room 172 Size Reduction Tent.

Discussion:

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Funct. Area:	Trend Code:	ISMS Funct.:	Causal Code:	
RP	RADCON-RADPRC	WORK	TalrdCntls	Issue Number: 9463

Pangborn, Brenda

From: Pangborn, Brenda
Sent: Tuesday, August 30, 2011 4:40 PM
To: Roberts, Robin (CONTR)
Subject: RE: S-11-SED-CHPRC-PFP-002

Place me on the list for responsible RL rep.

Due dates are as specified by the contractor's corrective action plan which should be available to you. RL is currently reviewing the CAP. We have 30 days from submission to reject the CAP.

-----Original Message-----

From: Roberts, Robin (CONTR)
Sent: Tuesday, August 30, 2011 1:20 PM
To: Pangborn, Brenda
Subject: S-11-SED-CHPRC-PFP-002

Hi Brenda,

I just wanted to follow up on the voicemail I left you. I have attached the detailed version of the subject report. My main two questions are whether or not I can condense the "Responsible RL Rep" columns and list less people (If so, who?) and if you could provide due dates for the contractor actions? Please let me know if you have any questions or see any other corrections to be made.

Robin Roberts
Technician I
Navarro Research and Engineering, Inc.
Support Contractor to DOE
(509)376-4253
robin.roberts@rl.doe.gov

Pangborn, Brenda

From: Pangborn, Brenda
Sent: Tuesday, July 19, 2011 10:42 AM
To: Berkenbile, Michael J
Subject: FW: PFP Surveillance
Attachments: 0124 - attached S-11-SED-CHPRC-PFP-02 Surveillance.doc

Per your request.

From: George, Marcy (CONTR)
Sent: Tuesday, July 19, 2011 9:45 AM
To: Pangborn, Brenda
Subject: PFP Surveillance

Marcy R. George

*YAHSGS LLC Administrative Assistant to
DOE RL/Assistant Manager for Safety and Environment
509-376-6278 (Phone) 509-376-6621 (FAX)*

Pangborn, Brenda

From: Pangborn, Brenda
Sent: Tuesday, April 26, 2011 3:42 PM
To: Schierman, Kerry
Subject: RE: Pert Team Accomplishments for 4/26/2011:

Kerry,

Read the planned work for Wednesday 4/27/11.

From: Schierman, Kerry
Sent: Tuesday, April 26, 2011 3:05 PM
To: Pangborn, Brenda; Demers, Joseph
Subject: FW: Pert Team Accomplishments for 4/26/2011:

Fyi...

From: Dockter, James C
Sent: Tuesday, April 26, 2011 2:33 PM
To: Johnston, G A (Jerry); Kluherz, Mark B; Trevis, Timmy L; Dunn, Sandra; Wilbanks, R G (Rick); Torelli, Charles P; Parsons, Nancy E; Vanunen, Mathew D; Aranda, Jose L; Gill, Joseph B; Meyer, Andrew F; Mackebon, Scott A; Ollero, Rudy; Leonard, Robert C; Anderson, Robert N; Cruz, Victor M; Schierman, Kerry; Trine, Sandra; Ward, Samuel A; Kinney, Reed J; Pettit, Mark A
Cc: Coddington, Jennifer R; Norman, Bradford F; Swallow, Reed L; ^PFP OCC; Brasel, Kreg T; Daling, David W; Longanbach, Anthony S; Bertrand, Eric P; Turner, William L; Benore, Dana G; Sutter, Caroline S; Adair, Toby J; Morris, J D (Jenni); MacAlister, Edward; Sewald, Monica S; Cordova, Daniel; Dockter, James C; Healy, Donald J; Coddington, Jennifer R; Norman, Bradford F; Swallow, Reed L
Subject: Pert Team Accomplishments for 4/26/2011:

Pert Team Accomplishments for 4/26/2011:

1. Made entry for continued size reduction in room 172 tent. Scope was to spray fixative inside glovebox to further lock down airborne contamination, remove pie plates on 4 gloves, remove gloves into glovebox, tape over glove ports, and remove leaded over-lay window. After removal of 2nd glove, RCT in tent, checked level on air head and found a spike over the void level of RWP Z-977. All personnel in tent were directed to make orderly egress from tent.
No contamination and all nasals LTD. Individual Lepel samples were also very low.

Planned work for Wednesday 4/27/2011:

1. Hold post job for Tuesdays' entry at 8:00.

2. If work is released by Rad-Con, will make a breathing air entry to continue size reduction.

James Dockter
PFP D&D Superintendent, PERT 19
942-6974

Pangborn, Brenda

From: Pangborn, Brenda
Sent: Tuesday, April 19, 2011 4:29 PM
To: Schierman, Kerry
Subject: FW: Deficiencies identified in External Dosimetry Program during review of EDIRs
Attachments: OA36921.docx

FYI.

This OA covers programmatic issues associated with neutron dosimetry issue (HSD vice HCND) and correction of doses via investigations. The problem went beyond PFP. My last area of investigation was to review a sample of the Dosimetry Investigation Reports which included PFP, WRAP, K-Basins, and CSB work.

-----Original Message-----

From: Pangborn, Brenda
Sent: Tuesday, April 19, 2011 4:01 PM
To: McLain, Kenneth W (Ken)
Cc: Bratvold, Tom; Kurtz, Jerry E; Demers, Joseph; Hill, Burton
Subject: Deficiencies identified in External Dosimetry Program during review of EDIRs

Please forward the attached OA to appropriate personnel for response.

Cross Cutting (Affects multiple projects)

Brenda Pangborn

GENERAL

Rpt #:

Date Entered:

Date Observed:

Last Modified Date:

36921

04/18/2011

04/18/2011

04/19/2011

Entry Type: Routine Oversight

Include in CIR: No

Hours in Field:

Title:

External Dosimetry Implementation CHPRC

Summary:

The surveillant reviewed 19 out of 120 External Dosimetry Investigation Reports (EDIR) that involved adjusting neutron doses from the Hanford Standard Dosimeter readings. Technical errors (math errors, wrong radiation type, zeroing dose without adequate technical justification) were identified in five out of 19 (26 percent) of the EDIRs. There were other potential issues in 4 other EDIRs.

Issue Type: Finding

Significance Level: 2

Statement:

Technical errors were identified in five out of nineteen External Dosimetry Investigation Reports

Discussion:

The surveillant reviewed nineteen External Dosimetry Investigation Reports (EDIR). Five out of nineteen reviewed (26 percent) contained technical errors. The following technical errors were identified:

1. Several EDIRs contained math errors. EDIR-10-223 divided 20 mrem neutron by a correction factor of 3, and specified the corrected dose as three mrem neutron (20 divided by 3 is 6.67, or rounded to the nearest mrem is 7 mrem, not 3 mrem). EDIR-10-077 took 60 mrem neutron divided by a correction factor of three and said the resulting dose was 17 mrem neutron. EDIR-10-179 erroneously added the gamma dose to the neutron dose when correcting the neutron dose (520 neutron +53 gamma = 573; 573 divided by 2 = 287). The corrected neutron dose should have been 520 divided by 2 = 260 mrem neutron.
2. One workers dose was corrected twice, but the dose was assigned as neutron vice gamma. The EDIR did not specify the type of radiation. No radiation survey record was attached. The worker had been taking photographs in PFP A-labs, for a total of 2 hours, and lost his Hanford Standard Dosimeter (HSD). The EDIR specified general radiation levels in A labs as 0.5 mrem/hr, but did not specify that was gamma radiation vice neutron. PFP general area radiation levels are both gamma and neutron in most places, and 0.5 mrem/hr is the typical MDA of the gamma dose reading instrument. The 0.5 mrem/hr dose rate was likely a gamma reading based on the location, A-Labs. The EDIR should have contained both gamma and neutron dose rates for preparation of the dose estimate. The first time the dose was corrected, a math error was made, 2 hrs times 0.5 mrem/hr, was recorded as 2 mrem neutron. The contractor caught the math error and changed the dose to 1 mrem neutron, but did not catch the error in no radiation type being specified by the facility providing the dose rate data.
3. A neutron dose record indicating 31 mrem neutron was changed to zero (see EDIR-10-176). The 31 mrem recorded neutron was corrected by dividing by 3 (10 mrem neutron), but then recorded as zero, without appropriate technical justification.

Requirements:

PRC-PRO-RP-379, External Dosimetry Program, section 3.15, Neutron Correction to HSD Measurements, step 2 specifies "If calendar year-to-date (CTD) uncorrected neutron exposure is [greater than or equal to] 100 mrem, then correct readings using the following correction factors: PFP = 2, ISA = 5, Others = 3." "Note: Justification is required in the project's technical equivalent document if there is a deviation from the given correction factors per project."

10 CFR 830.122 Quality Assurance Criteria (c) specifies "Criterion 3 Management/Quality Improvement (1) Establish and implement processes to detect and prevent quality problems. (2) Identify, control, and correct items, services, and processes that do not meet established requirements. (3) Identify causes of problems and work to prevent recurrence as a part of correcting the problem. (4) Review item characteristics, process implementation, and other quality related information to identify items, services, and processes needing improvement."

DOE/RL-2002-12, Hanford Radiological Health and Safety Document, section J, Radiological Records, paragraph 2, specifies "The contractor shall ensure that permanent radiological records are accurate and legible...."

Funct. Area:	Trend Code:	ISMS Funct.:	Causal Code:	Issue Number:
RP	QA-DOC	FEEDBK	PerfAssur	9811

Issue Type: Finding

Significance Level: 2

Statement:

CHPRC reduced the numbers of personnel monitored with the Hanford Combination Neutron Dosimeter to reduce costs. In the process, individuals who should have been wearing the combination dosimeter were not appropriately monitored in accordance with the Hanford External Dosimetry Technical Basis. In 2010, CHPRC processed 117 External Dosimetry Investigation Reports to correct the neutron reading from a Hanford Standard Dosimeter.

Discussion:

The Hanford, Standard Dosimeter (HSD) can measure neutron, and is DOE LAP accredited for its response to a Californium neutron source (Fast neutron). The HSD over responds significantly to a thermal neutron flux. Its response is dependent on the neutron energy. Depending on the neutron energy where the individual was exposed, correction factors between 2 and 5 are used. The Hanford Combination Neutron Dosimeter (HCND) has a neutron dosimeter which has TLDs that respond to different neutron energy levels and thus more accurately measures neutron, but costs more. However, this cost is less, based on discussions with the contractor, than the contractor's estimated man-hours taken to investigate and correct the neutron dose.

The HCND was not appropriately assigned to many individuals as specified in the Hanford technical basis document. CHPRC processed 117 EDIRs to change the record doses to personnel. Many more individual dose records were reviewed for high neutron doses, where doses indicated personnel should have been assigned HCND without making a change in the individual's dose of record.

A review of the CHPRC External Dosimetry Program, PRC-PRO-RP-379, revealed the document is inconsistent with the Hanford External Dosimetry Technical Basis Document. While PNL-MA-842 specifies personnel who routinely have neutron dose, as reported on an HSD, should be issued a HCND, CHPRC has not implemented this in their External Dosimetry Program. PRC-PRO-RP-379, section 3.15, step 5, only specifies to change the dosimeter to a HCND if the corrected neutron dose is greater than 100 mrem.

Requirements:

1. 10 CFR 835, Subpart E-Monitoring of Individuals and Areas, Article 835.401(b) Instruments and equipment used for monitoring shall be...(2) Appropriate for the type(s), levels, and energies of the radiation(s) encountered..."
2. DOE/RL-2002-12, Hanford Radiological Health and Safety Document, section F External Dosimetry, paragraph 3, specifies "The contractor shall participate in the development and maintenance of a Hanford site-wide external dosimetry basis document. The contractor's external dosimetry program shall be performed in accordance with this technical basis document."
3. PNNL-15750 Rev. 1, PNL-MA-842, Hanford External Dosimetry Technical Basis Manual, section 6.3, Selection of Dosimeter Types to Use, specifies "Individuals who are likely to receive Hp(10)n greater than 100 mrem per year should be issued a HCND, which provides a more accurate measurement of neutron dose. In addition, individuals who routinely have Hp(10)n greater than 100 mrem per year reported on an HSD should be issued a HCND."

Funct. Area:	Trend Code:	ISMS Funct.:	Causal Code:	Issue Number:
RP	RADCON-SRVYS	ANLYZE	TalrdCntls	9812

Issue Type: Observation

Significance Level: 1

Statement:

Poor practices identified in EDIR review.

Discussion:

The following additional poor practices were observed:

1. Poor resolution to a technical issue: EDIR-10-077 indicates a technical issue exists with the type of direct reading dosimeters (DRD) used at WRAP. The EDIR specifies the cause of "ACES report indicated that estimated dose recorded was grossly underreported for [DRD]", was "DRD do not detect neutron radiation and electronic dosimeters can under respond to lower energy spectra." The resolution states: "Return to monthly dosimeter issuance." If we are not getting what we need out of our DRD, based on the type and energy of radiation encountered, this technical issue should be addressed. By regulation, we should be monitoring with equipment appropriate for the type and energy of radiation encountered.
2. There is gross inconsistencies in who's neutron dose from the HSD gets corrected in the individual's record and who's does not. As an example, a neutron dose correction of 1 mrem was made in one EDIR, a dose of 31 was zeroed in another, and a HSD dose of 199 mrem (99.5 mrem corrected for PFP), was not corrected at all in the individuals record.
3. Rounding is inconsistent. Some EDIRs truncated the fraction of a mrem, while others used normal rounding practices. Had the 99.5 mrem corrected value from the example above used normal rounding practices, the corrected dose would be 100 mrem and the CHPRC procedure would require dose correction.
4. Technical justification for use of inconsistent neutron correction factors for ISA pad work was not documented in the EDIR. All 4 EDIR reports for individuals working at ISA (correction factor 5) pad that the surveillant reviewed had neutron, no gamma dose. Two individuals had some entries into CSB also. The correction factor applied to those individuals was 3. There was no documentation that indicated why the facility chose to use the 3 over the 5. The correction factor of 3 resulted in a conservative higher dose in the record.

Funct. Area:	Trend Code:	ISMS Funct.:	Causal Code:	Issue Number:
RP	RADCON-SRVYS	ANLYZE	TalrdCntls	

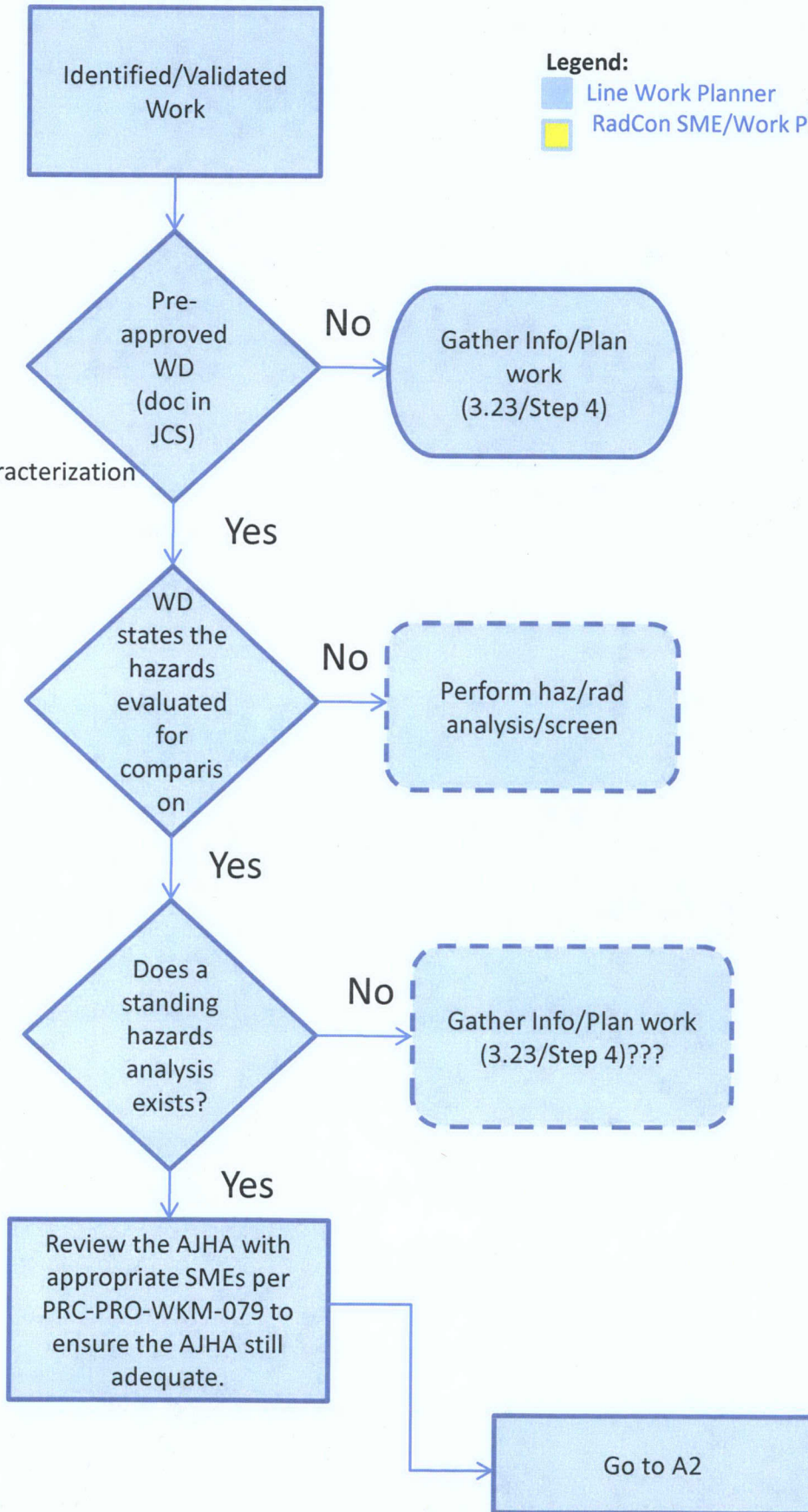
Work Planner (A1)

Legend:

- Line Work Planner
- RadCon SME/Work Planner

Inputs:

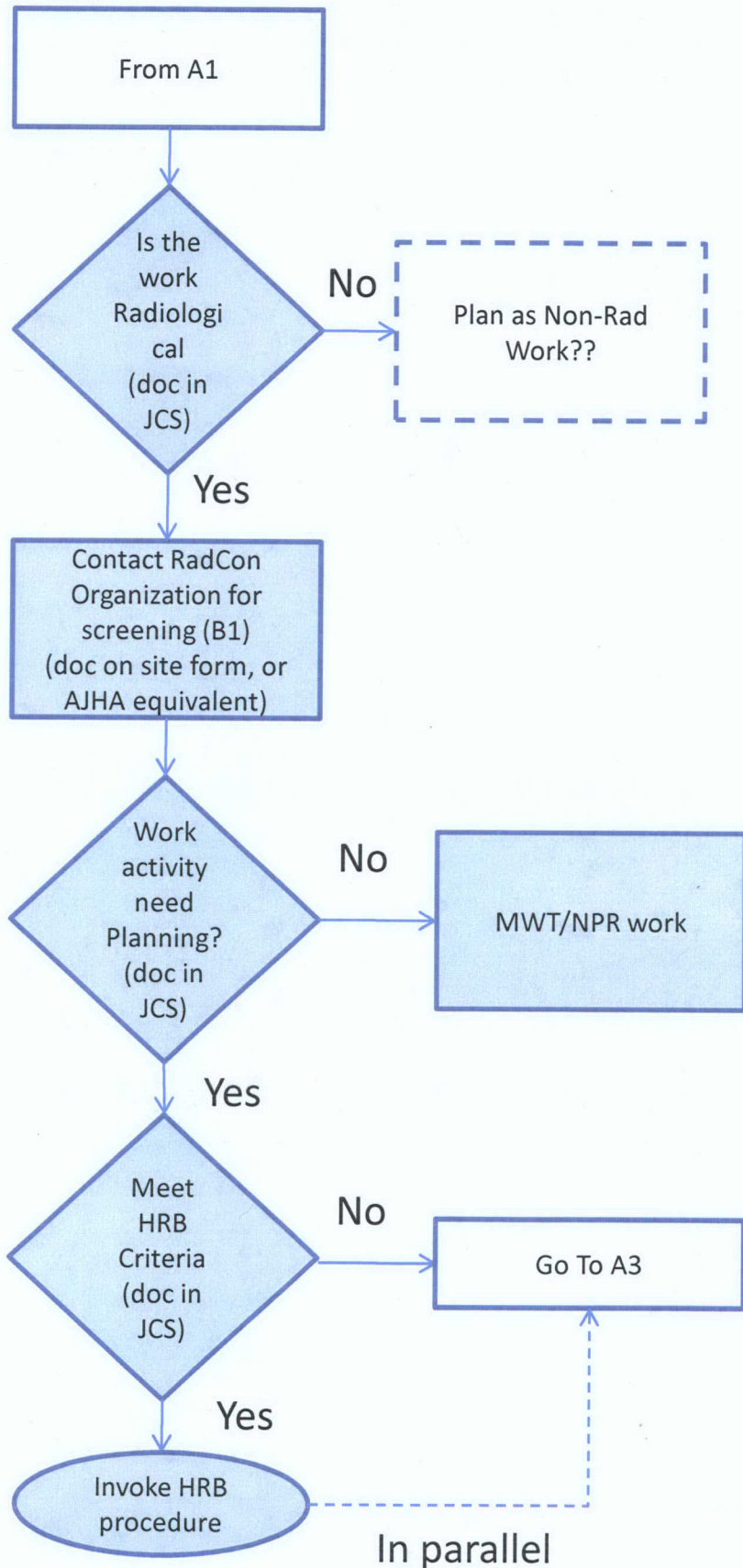
- Training
- Work scope
- Tools/work activities
- Work location
- System
- Radiological data/characterization
- Lessons learned
- History



Work Planner (A2)

Inputs:

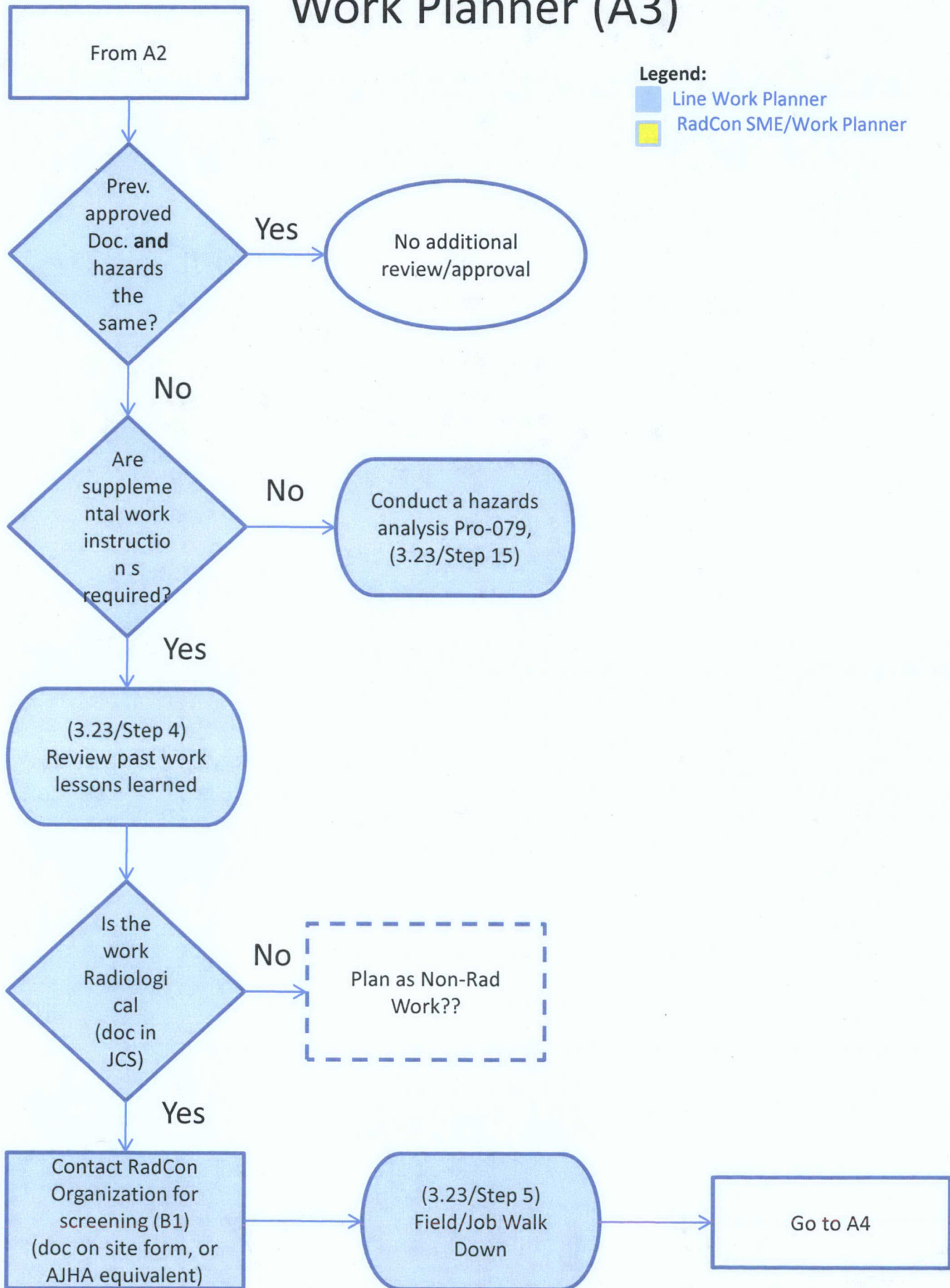
Training
Work scope
Tools/work activities
Work location
System
Radiological data/characterization
Lessons learned
History



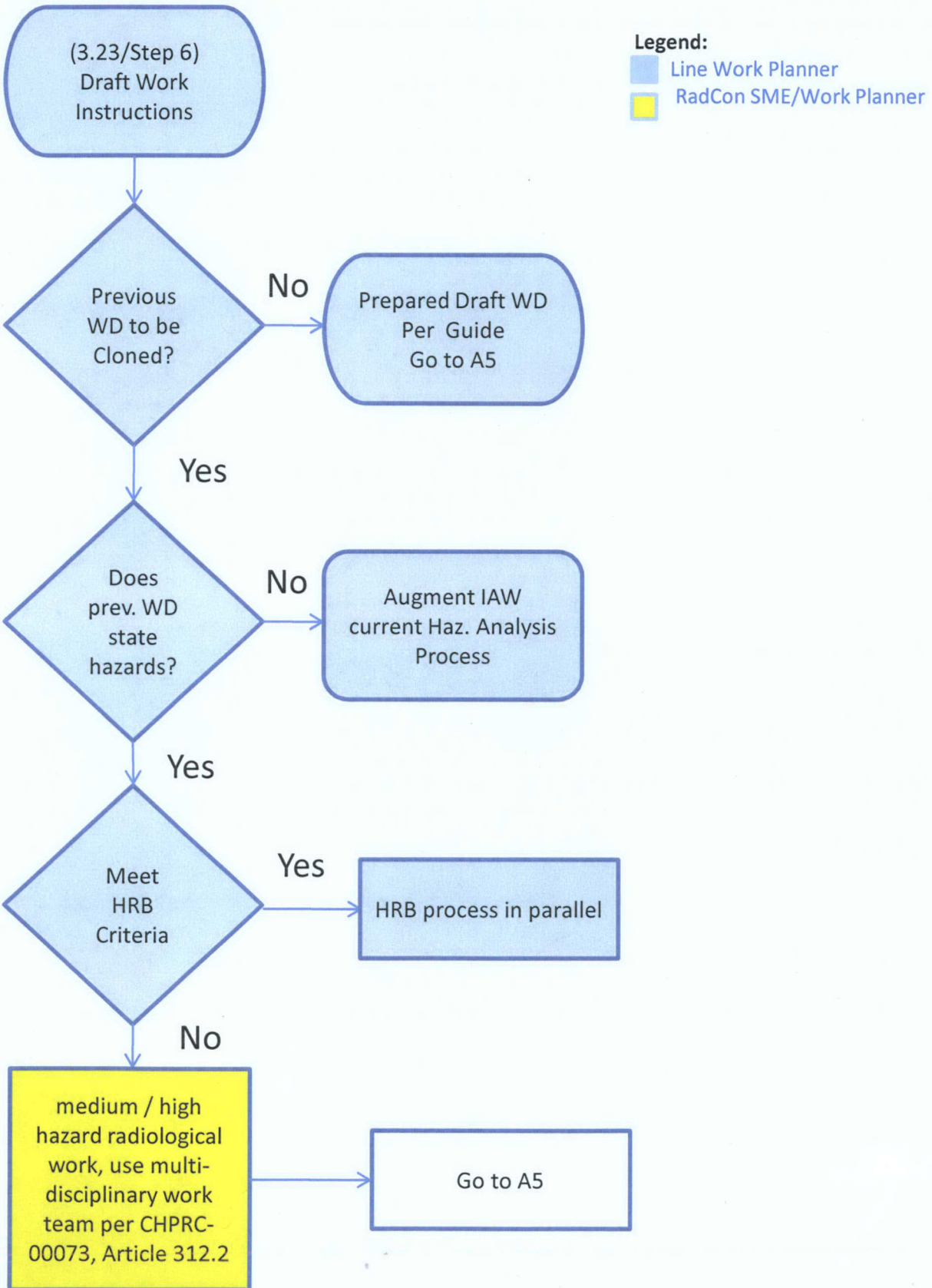
Legend:

- Line Work Planner
- RadCon SME/Work Planner

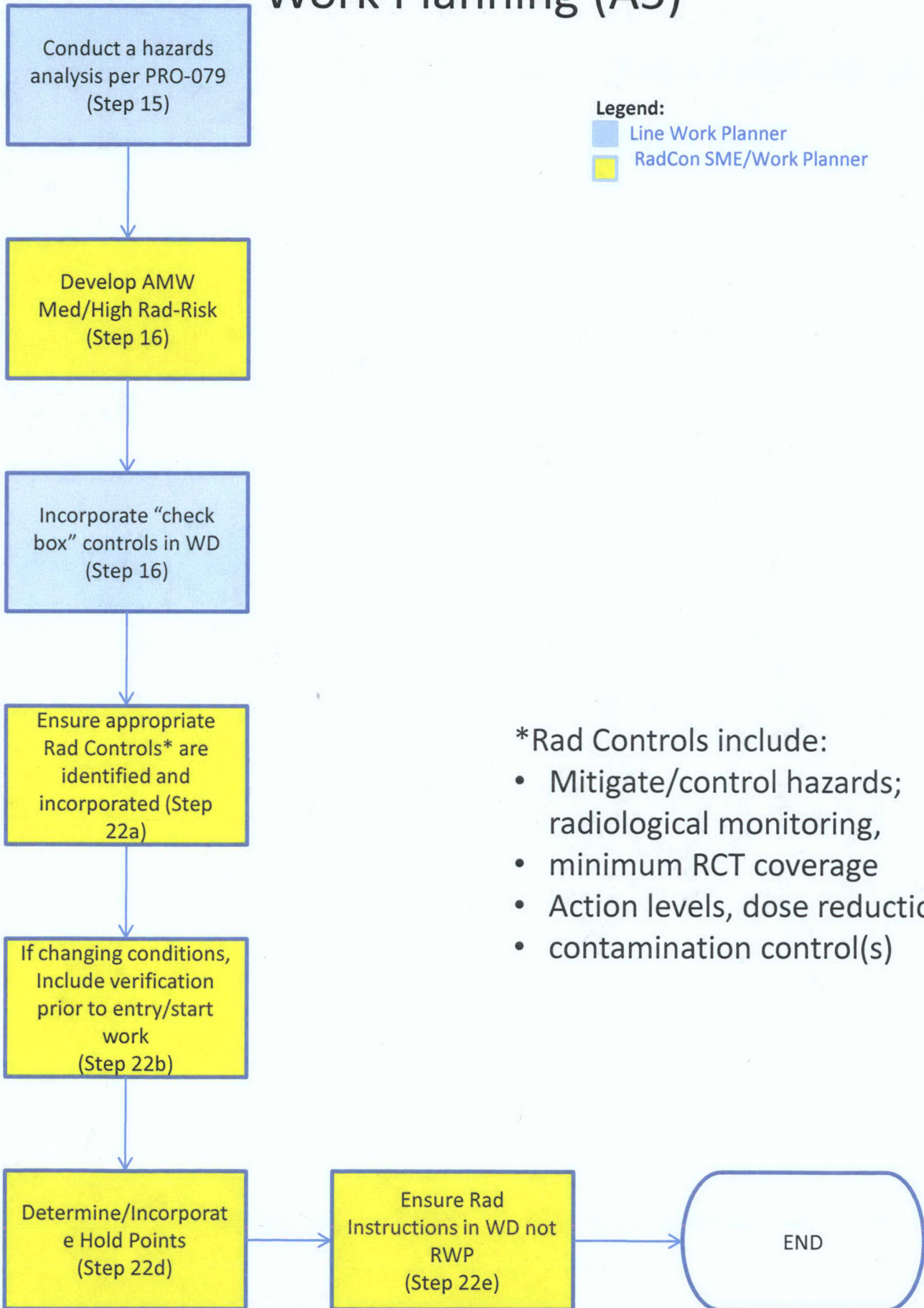
Work Planner (A3)



Work Planner (A4)



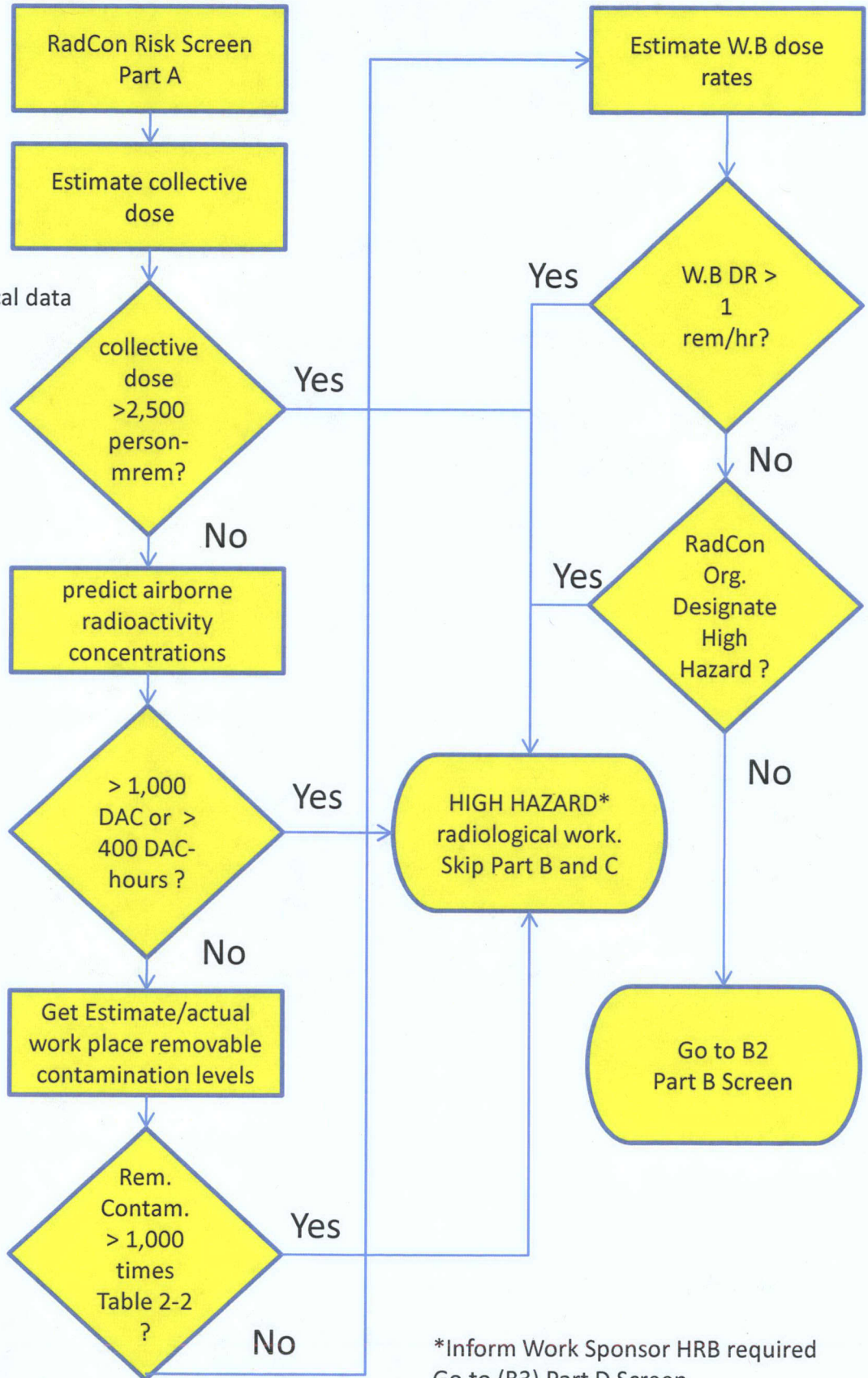
Work Planning (A5)



RadCon Screening WP(B1)

Inputs:

- Training
- Work scope
- Tools/work activities
- Work location
- Types of systems
- Unmitigated: Radiological data
- Dose estimate
- Predicted airborne
- Contamination levels



Legend:

- Line Work Planner
- RadCon SME/Work Planner

*Inform Work Sponsor HRB required
Go to (B3) Part D Screen

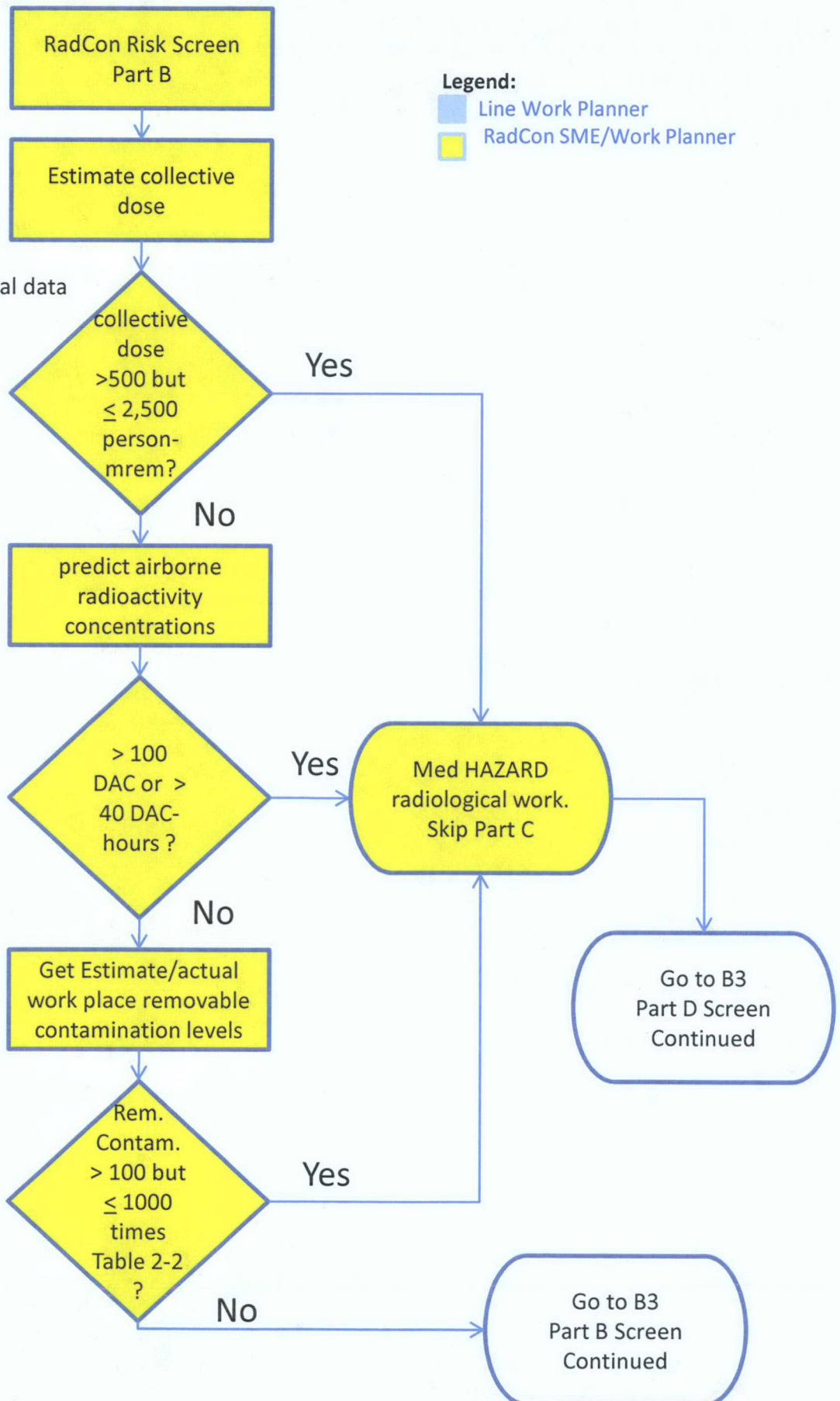
RadCon Screening WP(B2)

Inputs:

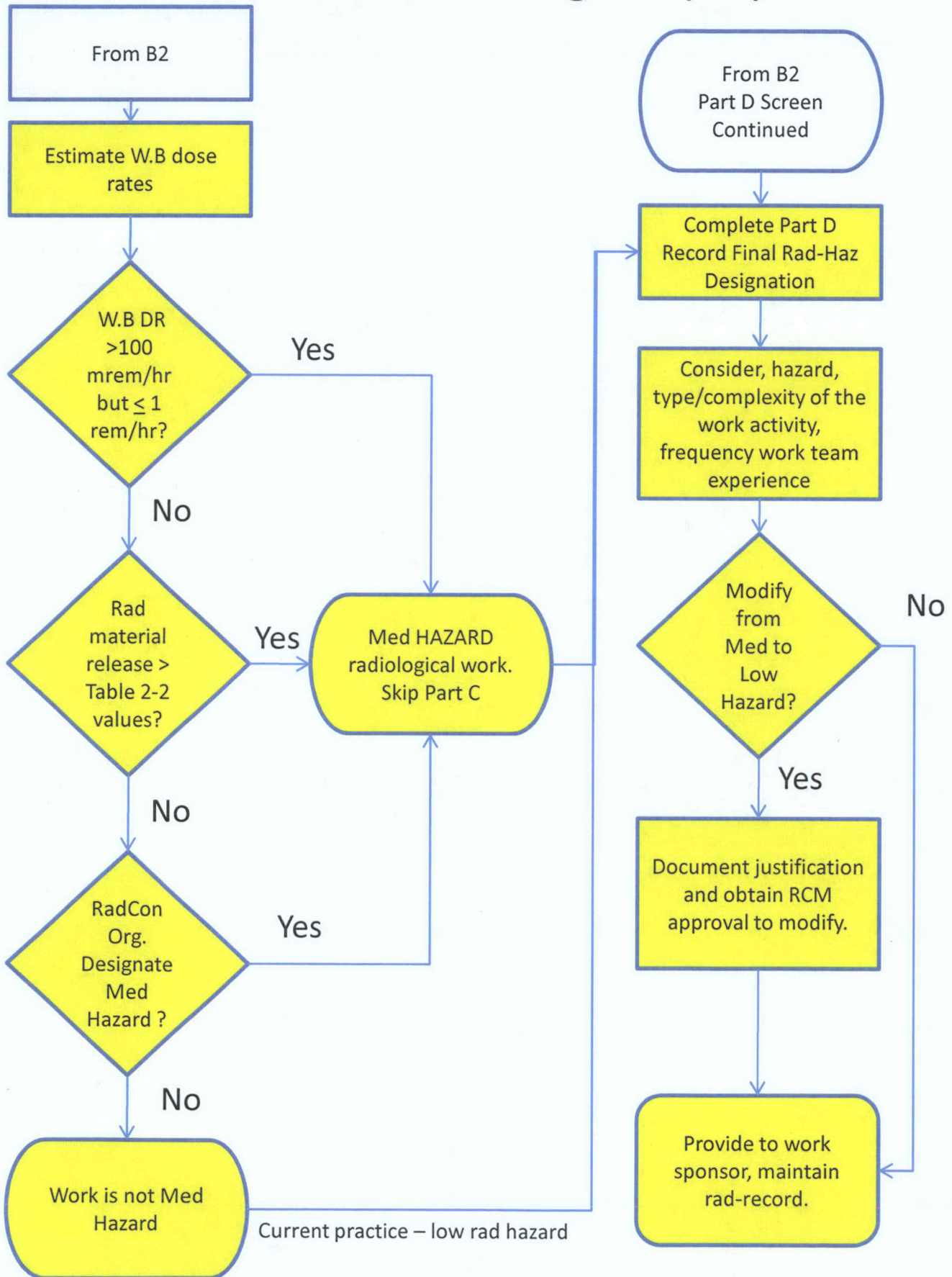
- Training
- Work scope
- Tools/work activities
- Work location
- Types of systems
- Unmitigated: Radiological data
- Dose estimate
- Predicted airborne
- Contamination levels

Legend:

- Line Work Planner
- RadCon SME/Work Planner

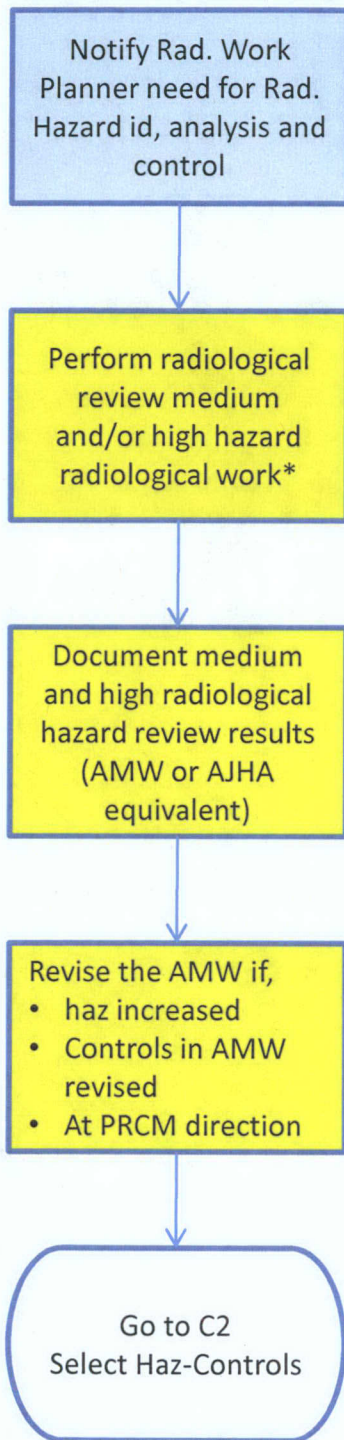


RadCon Screening WP(B3)



RadCon AMW Procedure(C1)

Identify and Analyze Rad-Hazards



Legend:

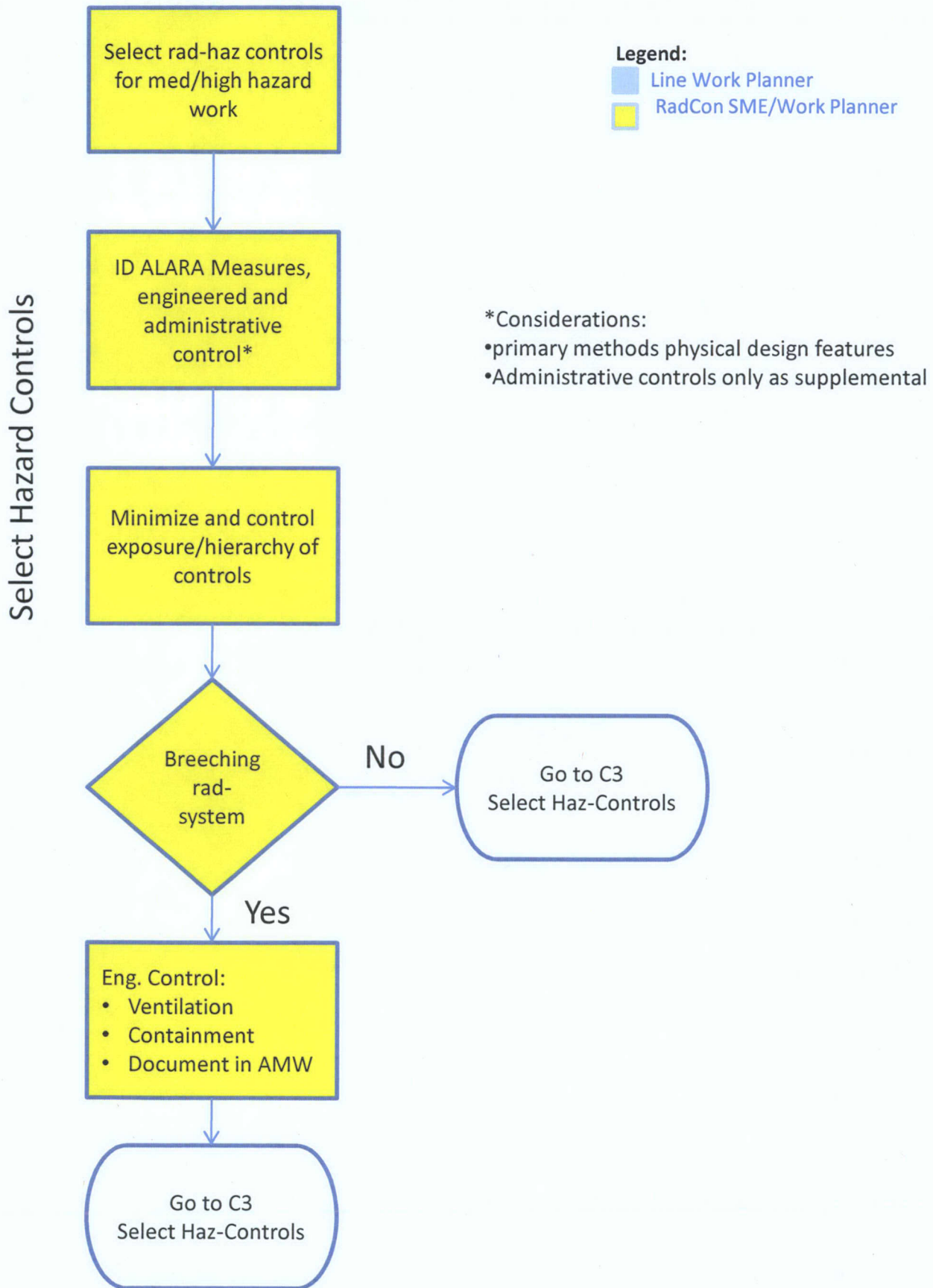
Line Work Planner

RadCon SME/Work Planner

*Considerations:

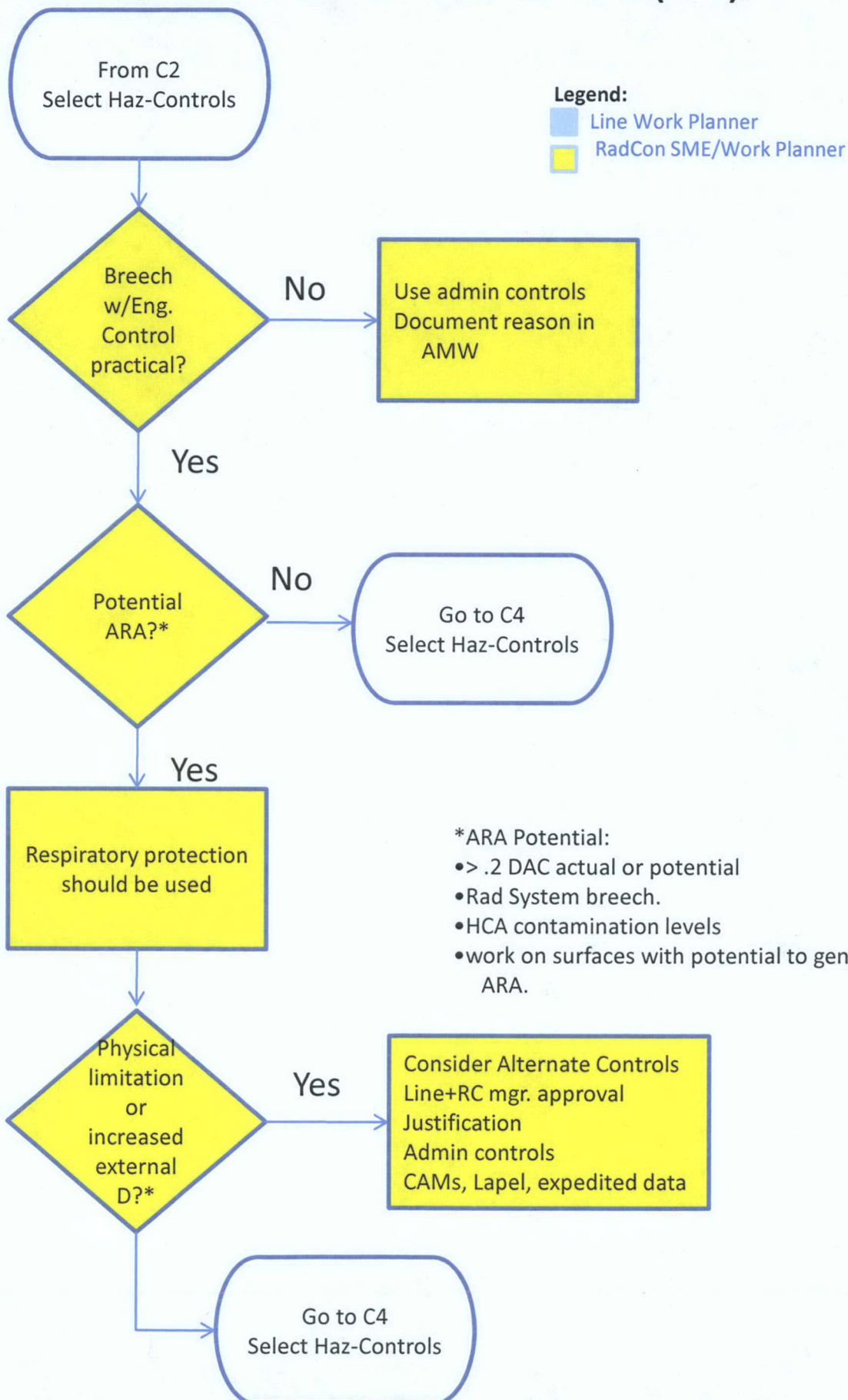
- Radiological hazards/workplace conditions
- New /modified radiological hazards and conditions introduced by the work activity.
- Potential for changing radiological conditions, that could result in either action levels or void limits.
- Use of new tools and equipment not previously to perform radiological work.
- Actions that verify actual radiological conditions are consistent with planned conditions.
- Knowledge, skills, and abilities of the workers
- Contamination levels at which decontamination should occur.
- Contingencies that would change planned radiological conditions.
- Hazards introduced by use of tooling and/or equipment.
- Need for job specific training

RadCon AMW Procedure(C2)

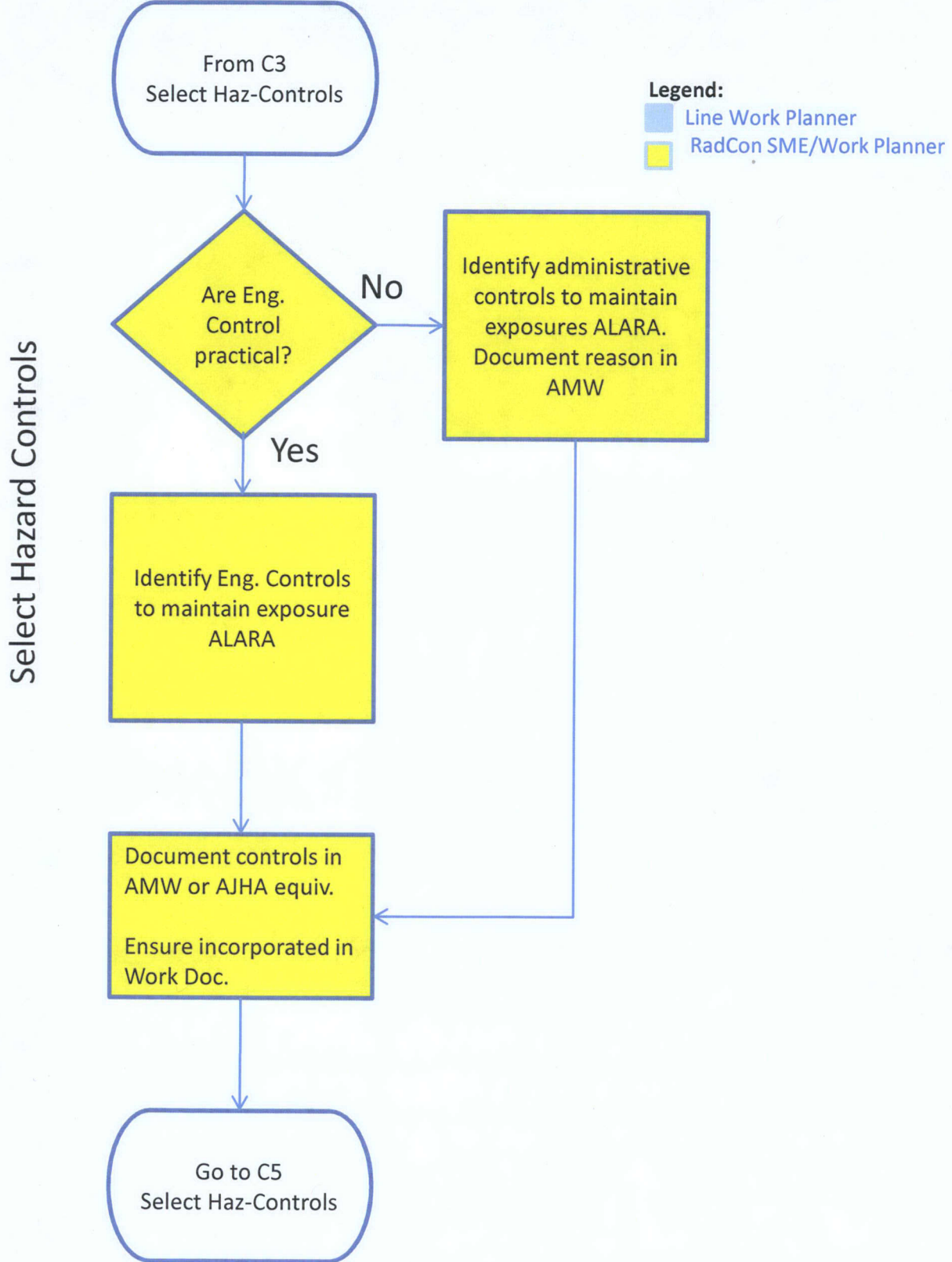


RadCon AMW Procedure(C3)

Select Hazard Controls



RadCon AMW Procedure(C4)



RadCon AMW Procedure(C5)

