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on the Medical Uses of Isotopes

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON THE MEDICAL USES OF ISOTOPES

+ + + + +

TELECONFERENCE

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WEDNESDAY,

AUGUST 10, 2016

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The meeting was convened by
teleconference, at 1:32 p.m., Pat B. Zanzonico,
ACMUI Vice Chairman, presiding.

MEMBERS PRESENT:

- PAT B. ZANZONICO, Ph.D., Vice Chairman
- FRANCIS M. COSTELLO, Member
- VASKEN DILSIZIAN, M.D., Member
- SUSAN M. LANGHORST, Ph.D., Member
- DARLENE METTER, M.D., Member
- MICHAEL D. O'HARA, Ph.D., Member
- CHRISTOPHER J. PALESTRO, M.D., Member
- JOHN H. SUH, M.D., Member
- LAURA M. WEIL, Member

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1 NON-VOTING MEMBERS PRESENT:

2 RICHARD GREEN

3

4 NRC STAFF PRESENT:

5 SAID DAIBES FIGUEROA, NMSS

6 CHRISTINA ENGLAND, OGC

7 MICHAEL FULLER, NMSS

8 ADAM GENDELMAN, OGC

9 EUGENE VINCENT HOLAHAN, JR., NMSS

10 DONNA-BETH HOWE, NMSS

11 SOPHIE HOLIDAY, NMSS

12 JAN NGUYEN, Region I

13 GRETCHEN RIVERA-CAPELLA, NMSS

14 MICHELLE SMETHERS, NMSS

15 KATIE TAPP, NMSS

16

17 PUBLIC PARTICIPANTS:

18 DAN HILL, Cardinal Health

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T-A-B-L-E O-F C-O-N-T-E-N-T-S

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P-R-O-C-E-E-D-I-N-G-S

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1:32 p.m.

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OPERATOR: Welcome and thank you for standing by. At this time all participants are in a listen-only mode. During the question and answer session please press star, one on your touch-tone phone if you'd like to ask a question.

I'll turn the meeting over to Ms. Sophie Holiday.

Ma'am, you may begin.

MS. HOLIDAY: Thank you. I'm going to turn it to Dr. Zanzonico to open up the meeting.

VICE CHAIR ZANZONICO: Okay. Thank you, Sophie.

Pat Zanzonico. And this is a meeting of a Subcommittee of the Advisory Committee on Medical Uses of Isotopes, which considered and generated a report on the license guidance for germanium-68/gallium-68 generators.

The purpose of this meeting is to just basically summarize the salient features of that report and to discuss it and then consider a vote by the full ACMUI to adopt that report.

And before we get into the actual

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1 substance of the meeting, I'd like to turn the meeting
2 over to Mr. Mike Fuller of the NRC for additional
3 opening remarks.

4 MR. FULLER: Thank you, Dr. Zanzonico.
5 As the designated federal officer for this meeting
6 I'm pleased to welcome you to this public meeting of
7 the Advisory Committee on the Medical Uses of
8 Isotopes. My name is Mike Fuller and I am the medical
9 team leader of the Medical Radiation Safety Team at
10 the NRC and I have been designated as the federal
11 officer for this advisory committee in accordance
12 with 10 CFR Part 17.11.

13 Present today as the alternate designated
14 federal officer is Sophie Holiday, ACMUI Coordinator.

15 This is an announced meeting of the
16 Committee. It is being held in accordance with the
17 rules and regulations of the Federal Advisory
18 Committee Act and the Nuclear Regulatory Commission.

19 This meeting is being transcribed by the
20 NRC and it may also be transcribed or recorded by
21 others. This meeting was announced in the July 18th,
22 2016 edition of the *Federal Register*. That's volume
23 81, page 46716.

24 The function of the Committee is to
25 advise the staff on issues and questions that arise

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1 on the medical use of byproduct material. The
2 Committee provides counsel to the staff, but does not
3 determine or direct the actual decisions of the staff
4 or the Commission. The NRC solicits the views of the
5 Committee and values their opinions.

6 I request if possible we try to reach a
7 consensus on the issues that we will discuss today,
8 but I also recognize there may be minority or
9 dissenting opinions. If you have such opinions,
10 please allow them to be read into the record.

11 At this point I would like to perform a
12 roll call of the ACMUI members participating today.

13 Dr. Pat Zanzonico?

14 VICE CHAIR ZANZONICO: Present.

15 MR. FULLER: Mr. Frank Costello?

16 MEMBER COSTELLO: Present.

17 MR. FULLER: Dr. Vasken Dilsizian?

18 MEMBER DILSIZIAN: Present.

19 MR. FULLER: Dr. Ronald Ennis?

20 (No audible response.)

21 MR. FULLER: Dr. Sue Langhorst?

22 MEMBER LANGHORST: Present.

23 MR. FULLER: Dr. Darlene Metter?

24 MEMBER METTER: Present.

25 MR. FULLER: Dr. Michael O'Hara?

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1 MEMBER O'HARA: Present.

2 MR. FULLER: Dr. Christopher Palestro?

3 MEMBER PALESTRO: Present.

4 MR. FULLER: Dr. John Suh?

5 MEMBER SUH: Present.

6 MR. FULLER: Ms. Laura Weil?

7 MEMBER WEIL: Present.

8 MR. FULLER: Okay. I've confirmed that
9 a quorum has been met by the presence of at least
10 seven members. On the phone do we have Mr. Zoubir
11 Ouhib?

12 (No audible response.)

13 MR. FULLER: Or Mr. Richard Green?

14 (No audible response.)

15 MEMBER GREEN: Present.

16 MR. FULLER: Mr. Zoubir Ouhib has been
17 selected as the ACMUI therapy medical physicist. Mr.
18 Richard Green has been selected as the ACMUI nuclear
19 pharmacist. Mr. Ouhib and Mr. Green are pending
20 security clearance, but may participate in this
21 meeting, however, they do not have voting rights.

22 I now ask NRC staff members who are
23 present to identify themselves. I'll start with
24 individuals in the room here.

25 DR. HOWE: Dr. Donna-Beth Howe.

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1 MS. HOLIDAY: Sophie Holiday.

2 MR. GENDELMAN: Adam Gendelman.

3 DR. HOLAHAN: Dr. Vincent Holahan.

4 MS. SMETHERS: Michelle Smethers.

5 DR. DAIBES: Dr. Said Daibes.

6 MR. FULLER: Okay. Now we will go to NRC
7 Headquarters employees on the phone. Please identify
8 yourself.

9 DR. TAPP: Dr. Katie Tapp.

10 MR. FULLER: And do we have any members
11 of the working group present on the phone?

12 MS. NGUYEN: Jan Nguyen.

13 MR. FULLER: Okay. Thank you. Members
14 of the public who notified Ms. Holiday that they will
15 be participating on the teleconference will be
16 captured in the transcripts. Those of you who did
17 not provide prior notification, please contact Ms.
18 Holiday at sophie.holiday@nrc.gov or call 301-415-
19 7865.

20 We have a bridge line available and that
21 phone number is 888-469-2036. The pass code to
22 access the bridge line is 7557476#.

23 This meeting is also using the
24 GoToWebinar application to view presentation handouts
25 real time. You can access this by going to

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1 www.gotowebinar.com and search for meeting ID 131-
2 635-875.

3 The purpose of this meeting is to discuss
4 the draft report of the ACMUI Germanium-68/Gallium-
5 68 Generator Subcommittee. Individuals who would
6 like to ask a question or make a comment regarding a
7 specific issue the Committee has discussed should
8 request permission to be recognized by the ACMUI Vice
9 Chairperson Dr. Pat Zanzonico.

10 Dr. Zanzonico, at his option, may
11 entertain comments or questions from members of the
12 public who are participating with us today. Comments
13 and questions are usually addressed by the Committee
14 near the end of the meeting after the Committee has
15 fully discussed the topic.

16 I would also like to add that the handouts
17 and agenda for this meeting are available on NRC's
18 public web site.

19 For everyone's awareness, NRC staff has
20 recently taken an action that is related to the topic
21 being discussed today, but not the subject of today's
22 meeting. On July 29th NRC issued a memo to our
23 regional administrators authorizing them to grant an
24 exemption to the Decommissioning Funding Plan
25 requirements and 10 CFR Part 35.35 -- I'm sorry, Part

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1 30.35 for the possession and use of germanium-
2 68/gallium-68 generators will be questioned and under
3 certain circumstances. Those circumstances involve
4 the existence of a legally binding agreement between
5 the licensee and the manufacturer or the distributor
6 of the generator, that the generator or generators
7 will be returned to the manufacturer or the
8 distributor when the generator expires or is no longer
9 in use.

10 At this time Dr. Katie Tapp is going to
11 provide a little bit of background information on
12 behalf of the working group that developed the Draft
13 Guidance, Licensing Guidance that will be discussed
14 today by the ACMUI.

15 Dr. Tapp?

16 DR. TAPP: Thank you, Mike. The NRC and
17 the Agreement States formed a working group earlier
18 this year to evaluate the use of germanium-
19 68/gallium-68 generators to produce gallium-68 for
20 radiopharmaceuticals. Based on the evaluation the
21 working group has made the recommendation that the
22 use of these generators should be under 10 CFR 35.1000
23 because of the potential for germanium-68
24 breakthrough.

25 Since 10 CFR 35.204 does not have the

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1 maximum germanium-68 concentration as it does for
2 other types of generators for the breakthroughs of
3 their parents, the working group has made the
4 recommendation for the use of the generators to be
5 licensed under 10 CFR 35.1000. The working group has
6 made a Draft Licensing Guidance that the ACMUI will
7 be effecting the recommendations on today.

8 The working group wanted to provide a
9 little overview of what was contained in this
10 Licensing Guidance of background information for
11 those listening on the phone. So the germanium-68
12 and gallium-68 generators are expected to be used
13 both at hospital facilities and at commercial nuclear
14 pharmacies. Because of this, the Licensing Guidance
15 both for medical facilities and for commercial
16 nuclear pharmacies is licensed under Part 32.

17 Example commitments that are currently in
18 the Draft Licensing Guidance include the breakthrough
19 limits set by the manufacturer, but the commitment to
20 test the breakthrough of the generator once the
21 generator is in use and to elute the generator at a
22 frequency set in accordance with manufacturing and
23 operating procedures because the germanium-68
24 breakthrough can increase if elution is not done at
25 a regular frequency.

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1 In addition, currently there's a draft
2 commitment for the licensee to provide training for
3 the individuals who are using the gallium-68 -- the
4 germanium-68/gallium-68 generators. Those are
5 examples of draft commitments that the working group
6 is recommending in this Draft Licensing Guidance.

7 After today's meeting from the ACMUI is
8 a recommendation on the document as formed. The
9 working group will reconvene to go over this
10 recommendation and the comments received as well as
11 comments received from the states and NRC regions on
12 the draft document. The working group will then
13 issue a final Licensing Guidance document and provide
14 that to the NRC management for final review, and at
15 that time the document will be issued as final and
16 will be posted on our web site with our other 10 CFR
17 35.1000 documents.

18 With that, I'd like to turn it back to
19 Mike Fuller for his remaining remarks.

20 MR. FULLER: Okay. Thank you. Thank
21 you, Katie.

22 Okay. So at this time I ask that
23 everyone on the call who is not speaking please place
24 their phones on mute. If you do not have the
25 capability to mute your phone, please press star, six

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1 to utilize the conference line mute and un-mute
2 functions. I would ask everyone to exercise extreme
3 care to ensure that the background noise is kept at
4 a minimum as any stray background sounds can be very
5 disruptive on a conference call as large as this one.

6 Okay. At this point I would like to turn
7 the meeting back over to Dr. Zanzonico.

8 VICE CHAIR ZANZONICO: Thank you, Mr.
9 Fuller.

10 As was mentioned I think, I serve as both
11 the Vice Chairman of the ACMUI as well as Chairman of
12 this Subcommittee, so I'm feeling fairly omnipotent
13 today. But in any case, I'll be presiding over the
14 meeting and will be presenting a summary of our
15 subcommittee report on the working group's Licensing
16 Guidance. And as was alluded to, the Food and Drug
17 Administration recently approved a gallium-68
18 radiopharmaceutical, specifically gallium-68
19 DOTATATE, which is a proprietary name NetSpot for
20 diagnostic imaging by positron emission tomography or
21 PET of somatostatin receptor positive tumors.

22 And unlike more conventional PET
23 radiopharmaceuticals like F-18 labeled
24 fludeoxyglucose or FDG, gallium-68 used to prepare
25 DOTATATE can be produced from a generator similar to

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1 the more familiar molybdenum-99/technetium-99m
2 generator. But it is a new clinical application of
3 this generator, and the NRC in conjunction with the
4 Agreement State representatives therefore directed
5 guidance to provide applicants with an acceptable
6 means of satisfying the regulatory requirements for
7 a license for the use of the generator for producing
8 gallium-68 to be used in the preparation of gallium-
9 68 labeled radiopharmaceutical.

10 Our Committee, the ACMUI, subsequently
11 convened a subcommittee to review and comment and
12 offer recommendations on this Draft Licensing
13 Guidance, and the report we prepared and are
14 discussing today represents the Subcommittee's report
15 on this guidance.

16 We included in our report a general
17 background on imaging of neuroendocrine tumors and
18 the clinical challenge that that presents. And we
19 also briefly reviewed and discussed the value, the
20 improved diagnostic capability offered by gallium-68
21 DOTATATE and related somatostatin receptor
22 radiopharmaceuticals. And that information of course
23 is available in the literature.

24 And as you know, the gallium-68 is a
25 short-lived radionuclide with a physical half-life of

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1 68 minutes with a positron emitting radiometal that
2 can be labeled to the radiopharmaceutical via agents
3 such as DOTA. And the gallium-68 is obtained from
4 the generator we're discussing. It can also be used
5 to label any one of other types of
6 radiopharmaceuticals such as antibodies and antibody
7 fragments, and so gallium-68 in the generator can
8 have wide applicability in diagnostic imaging well
9 beyond that of neuroendocrine tumors.

10 As was mentioned, as with any generator,
11 the parent, germanium-68 can break through in the
12 eluate and result in an unnecessary or avoidable
13 additional radiation to patients receiving the
14 gallium-68 radiopharmaceutical with any germanium-68
15 radio-contaminant.

16 As we reviewed in our report, based on
17 data available in the literature, the additional dose
18 to patients from any such germanium-68 breakthrough
19 will frankly be trivially low. Nonetheless, it's
20 important to regularly assay breakthrough from a
21 regular user to evaluate the health and wellbeing of
22 the generator and so forth. So all of this was
23 discussed in the introduction to our report and is
24 available of course for anyone to read should they be
25 interested in it.

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1 The next component of our report was
2 recommended changes to the Licensing Guidance, and
3 actually they were relatively limited, our
4 recommendations. No change to the title was
5 recommended. Really no change to the table of
6 contents other than to bring it into consistency with
7 other changes recommended in our comments.

8 We did recommend that a specific section
9 entitled, "Purpose" be included in the Licensing
10 Guidance. We realize that there's a certain format
11 that is typically used in Licensing Guidance, but we
12 felt that would -- as with any such document it would
13 be helpful to explicitly state what the purpose of
14 this document, the Licensing Guidance is and so had
15 some specific recommendation basically to simply
16 rearranging some of the content of the Licensing
17 Guidance to identify it explicitly as the purpose.
18 But those are fairly minor issues.

19 The main issue the Subcommittee had with
20 the Licensing Guidance was the use of the generators
21 under CFR 35.200 versus 35.1000, and therefore its
22 applicability to commercial nuclear pharmacies which
23 would be possessing these generators and providing
24 gallium-68 to prospective users. As we heard and as
25 we discussed at length by our Subcommittee, such

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1 commercial nuclear pharmacies are actually regulated
2 under Part 32. And so, there was a question of the
3 applicability of this Licensing Guidance to
4 commercial nuclear pharmacies given that difference
5 in the part of the CFR that licensed authorized uses
6 and medical uses of byproduct materials versus
7 commercial nuclear pharmacies.

8 Now, it was stated in the Licensing
9 Guidance that this guidance would provide a compliant
10 means of both hospital-based generators and
11 authorized users as well as commercial nuclear
12 pharmacies to be in compliance with their respective
13 regulations.

14 We recommended some revised language to
15 hopefully clarify that point and to make it more
16 explicit. And there's a fairly extensive section in
17 our report dealing with that specific issue. And
18 again, that was our main concern, was the range or
19 scope of applicability of the Licensing Guidance to
20 ensure that it covered commercial nuclear pharmacies
21 as well as hospital-based generator systems. Again,
22 it was stated originally in the Licensing Guidance.
23 We felt it could be made more explicit and more
24 emphatic and suggested language, revised language to
25 hopefully accomplish that.

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1 We also had a number of other less
2 significant, but noteworthy editorial revisions that
3 we suggested, and one additional issue that was
4 alluded to and that we think may require some
5 expansion in the Licensing Guidance is the issue of
6 leakage of the generators. It is stated at one point
7 in the Licensing Guidance that generators should be
8 evaluated for leakage, but we think that perhaps that
9 should be broadened a little, expanded a bit to
10 provide a compliant means of evaluating leakage.

11 Another issue that was weighed was the
12 meaning of the word or the term "different locations."
13 There was a reference made in the Licensing Guidance
14 to retest and evaluate and so forth if a generator
15 would move to a different location. That term was
16 undefined originally in the guidance, and we
17 subsequently learned it was not intended to apply for
18 example to different areas of the same room, for
19 example, or even different rooms in the same facility
20 building. But we think that a more explicit
21 definition of what that term, the term "location,"
22 was meant to imply should be included.

23 Again, we also had a number of other less
24 significant, but noteworthy editorial revisions that
25 were included in our report, but I think those are

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1 the main features, the main points and
2 recommendations of our report.

3 And with that, I'll conclude my opening
4 remarks and now ask if any members of the Subcommittee
5 have comments or questions.

6 Before I do, however, I should recognize
7 the other members of the Subcommittee, all of whom
8 put in a lot of time and effort and thought into this
9 report. And I know you want to acknowledge and
10 recognize all of them for their contributions. And
11 they include: Mr. Frank Costello, Dr. Sue Langhorst,
12 Dr. Darlene Metter, Dr. Chris Palestro, as well as
13 myself. I think we crafted an excellent report, if
14 I do say so myself, and hopefully it will be of value
15 not only to the working group that prepared the
16 Licensing Guidance, but ultimately to end users.

17 So with that, I would open it up to
18 comments and questions, first by the Subcommittee
19 members, then to the full ACMUI, and finally a time
20 allowed to members of the general public who may be
21 on the line.

22 So if anyone on the Subcommittee would
23 like to make a comment, please identify yourself and
24 go forward.

25 MEMBER LANGHORST: Dr. Zanzonico, this

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1 is Sue Langhorst.

2 VICE CHAIR ZANZONICO: Yes, Sue?

3 MEMBER LANGHORST: I'd like to emphasize
4 something, some of the wording that we suggested for
5 the Draft Licensing Guidance in that the use of the
6 germanium/gallium generator to make gallium-68
7 radiopharmaceuticals is the portion that is under
8 35.1000. The use of the gallium-68
9 radiopharmaceuticals remains under 35.200. So for
10 instance, if a hospital gets a germanium/gallium
11 generator, the authorized user who in charge of that
12 elution and production of the radiopharmaceutical has
13 to go through the training requirements listed in
14 the Draft Licensing Guidance, but those authorized
15 users who are only just getting the gallium-68
16 radiopharmaceutical and using it as a diagnostic tool
17 don't have to do any additional training. They're
18 already approved under 35.200 use. Thank you.

19 VICE CHAIR ZANZONICO: Thanks very much.
20 That was a very good point and an omission on my part.
21 I think that's a very important distinction. And
22 again, in our report we endeavored to add language to
23 further qualify and emphasize that point, because
24 it's an important one. So thank you, Dr. Langhorst,
25 for that comment.

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1 Are there other comments from the
2 Subcommittee?

3 (No audible response.)

4 VICE CHAIR ZANZONICO: Hearing none at
5 this point, I would then solicit comments from other
6 members of the ACMUI, those not on the Subcommittee
7 that drafted the report. So again, if there any
8 members of the ACMUI who would like to make a comment,
9 please do so and identify yourself.

10 MR. GREEN: Good afternoon, Dr.
11 Zanzonico. This is Richard Green.

12 VICE CHAIR ZANZONICO: Yes, Mr. Green,
13 please.

14 MR. GREEN: I'd like to thank the
15 Subcommittee for a very thorough and thoughtful
16 report. I would just like to mention in the paragraph
17 on page 1 under "Background" the manufacturer
18 identified as the manufacturer of NetSpot is
19 incorrect. It's listed as Eckert & Ziegler, Berlin,
20 Germany. The FDA-approved kit that is radiolabeled
21 is manufactured by Advanced Accelerator Applications,
22 New York City. So there's a manufacturer of the
23 generator; that is Eckert & Ziegler in Germany, but
24 the pharmaceutical kit labeled with the eluate is
25 Advanced Accelerator Applications.

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1 VICE CHAIR ZANZONICO: Thank you, Mr.
2 Green, for that correction.

3 I'm sorry. Did you have a further
4 comment? I didn't mean to interrupt, Mr. Green.

5 MR. GREEN: No, that's fine. Just a note
6 on page 2 in the first paragraph. It reads, "Until
7 the approval of NetSpot and gallium-68 DOTATATE."
8 I'd recommend that the "and" be struck and that the
9 gallium-68 DOTATOC, which is -- okay, my -- so NetSpot
10 is the FDA-approved drug. Gallium-68 DOTATATE is the
11 generic name of the product. And I think the "and"
12 is confusing us, leading people to believe that
13 they're two different products. One is the brand
14 name; one is the generic name.

15 VICE CHAIR ZANZONICO: Understood.
16 Thank you for that as well.

17 MR. GREEN: And the last item is on page
18 3, and this has to deal a little bit with physics, so
19 I'm getting a little bit outside my area. But on the
20 very last paragraph towards the bottom there's an
21 example of mathematics. It starts off with "The
22 qualitative elution of a 50 millicurie generator."
23 And so, a 50 millicurie germanium-68 generator will
24 yield approximately a 60 percent yield, so you would
25 receive an elution of around 30 millicuries of

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1 gallium-68. And in this example mathematics I
2 believe was a one-to-one 100 percent yield, 50
3 millicuries of germanium yielding 50 millicuries of
4 gallium. And the physics actually would be a 60
5 percent yield, or 30 millicuries.

6 VICE CHAIR ZANZONICO: Understood. Thank
7 you, Joe. We ought to endeavor to be correct.

8 MR. GREEN: That's it. Thank you very
9 much.

10 VICE CHAIR ZANZONICO: Thank you. I may
11 say there will likely be -- in addition to the
12 corrections Mr. Green identified, there will likely
13 be additional editorial, for lack of a better term,
14 corrections before the report is actually finalized.
15 I don't think any of those would impact the
16 approvability of the report, but in the interest of
17 full disclosure, as I said, there will likely be
18 certain editorial corrections. No matter how many
19 people and how often these sets of documents are
20 vetted, there's always another error to find. But
21 again, I don't think any of those at this point will
22 impact the approvability of the report.

23 So thank you, Mr. Green.

24 Other comments from the ACMUI membership?

25 MR. GREEN: I'm sorry. This is Richard

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1 Green again.

2 VICE CHAIR ZANZONICO: Yes, please.

3 MR. GREEN: On page 4 the footnote
4 reference No. 14 --

5 VICE CHAIR ZANZONICO: Right.

6 MR. GREEN: -- references a Danish health
7 and nursing authority 2014 product, -- similar
8 product characteristics for the germanium GalliaPharm
9 Generator. Since this NetSpot has been FDA approved,
10 Eckert & Ziegler has released GalliaPharm
11 pharmaceutical GMP grade germanium-68/gallium-68
12 instructions for use, document published May 27th,
13 2016. And we can make that available if you would
14 like.

15 VICE CHAIR ZANZONICO: That would be
16 great. If there's a more pertinent or more up-to-
17 date reference, we should certainly include that.
18 Thank you for that.

19 Are there other comments from the ACMUI
20 membership?

21 (No audible response.)

22 VICE CHAIR ZANZONICO: Hearing none and
23 seeing that we have ample time, to put it mildly, is
24 there anyone on the line from the general public that
25 would like to make a comment or ask a question?

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1 OPERATOR: Thank you.

2 VICE CHAIR ZANZONICO: So now is your
3 opportunity to do so. Please identify yourself.

4 OPERATOR: Participants on the phone, if
5 you'd like to ask a question, please press star, one
6 and record your name.

7 One moment as questions register.

8 (Pause.)

9 OPERATOR: We have a question from
10 Christina England.

11 Ma'am, your line is open.

12 MS. ENGLAND: I withdrawn. I was trying
13 to log in earlier when participants were requested.

14 OPERATOR: Thank you. Our next question
15 is from Nawali.

16 Your line is open.

17 (No audible response.)

18 OPERATOR: Again, caller, please check
19 your mute button. Your line is now open.

20 (No audible response.)

21 OPERATOR: As a reminder, participants,
22 if you'd like to ask a question, please press star,
23 one and record your name.

24 One moment to see if we have any
25 questions.

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1 (Pause.)

2 OPERATOR: We have a question from Dan
3 Hill.

4 Your line is open.

5 MR. HILL: Hi, this is Dan, also working
6 with Richard Green. In the call today there was
7 mention of a memo sent to the NRC regional
8 administrators on July 29th, 2016. I believe that
9 it was mentioned that the requirements for the
10 exemption of the gallium-68 generator involved one
11 requirement that I heard of specifically, an
12 agreement with the manufacturer for the return of the
13 generator to the manufacturer at the expiry or after
14 the useful life of the generator.

15 Can you tell us on the phone if this means
16 a specific agreement with each and every customer or
17 a general form letter or acknowledgement from the
18 manufacturer, or if this is currently in place and
19 available to all licensees as a single requirement
20 for an exemption being from decommissioning financial
21 assurance?

22 VICE CHAIR ZANZONICO: This is Pat
23 Zanzonico again, and I will in a moment defer to Dr.
24 Tapp to answer that point more explicitly.

25 My reading of the Licensing Guidance is

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1 that this agreement must be a legally binding
2 document. And my interpretation of that, and I'm not
3 a legal person by any means -- but my interpretation
4 of that is that there must be a specific letter
5 between a named customer; that is, the hospital or
6 clinic or whatever, and the named manufacturer. I
7 would think that to make that legally binding the
8 party to this agreement must be explicitly identified
9 and there would need to be a separate agreement letter
10 for each customer and each manufacturer. That's my
11 uneducated interpretation of that language.

12 Dr. Tapp, would you care to comment on
13 that?

14 MR. FULLER: Yes, thank you, Dr.
15 Zanzonico. This is Mike and I think I can take this
16 on.

17 Yes, that's correct. The expectation at
18 least for now is that each one of -- each time the
19 licensee is -- or each time one of our licensees
20 requests an amendment to add this to their license,
21 we will need to review that legally binding agreement.
22 We also have an attorney here, Adam Gendelman, who's
23 here with us today. And so this is really more of a
24 legal question I think, and so perhaps he might want
25 to weigh in as well.

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1 But, yes, our expectation is that each
2 time someone applies for the authority or the
3 permission to possess and use one of these generators,
4 as part of that review of that application in order
5 to be able to exempt that person or that licensee
6 from the requirements for a Decommissioning Funding
7 Plan, that legally binding agreement is something
8 that would need to be reviewed.

9 MR. GENDELMAN: And this is Adam
10 Gendelman. Operator, if you could open Christina
11 England's line, she has some experience on this as
12 well.

13 OPERATOR: One moment.

14 Ms. England, would you please press star,
15 then one for your question?

16 (Pause.)

17 OPERATOR: Thanks. Ms. England, your
18 line is now open.

19 MS. ENGLAND: Hi, everyone. This is
20 Christina. Yes, what you described is correct. A
21 legally binding agreement will be required between
22 the licensee and the manufacturer or the distributor
23 that is supplying the generator. The agreement
24 itself would be determined -- well, confirmed to be
25 legally binding by an attorney in the regions or an

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1 attorney at headquarters, but I haven't heard
2 anything, I don't think, that is exactly what we're
3 expecting and what is anticipated by the exemption.

4 MR. HILL: Thank you, everyone.

5 VICE CHAIR ZANZONICO: Thank you. Mr.
6 Hill, does that answer your question?

7 MR. HILL: Yes, and of course if that is
8 the only requirement or if there's other criteria you
9 could explain.

10 VICE CHAIR ZANZONICO: Well, again, my
11 reading of the document, of the Licensing Guidance
12 and obviously we can only interpret what's on paper,
13 so to speak, is that that's the sum and the substance
14 of the requirements for the exemption. Again, NRC
15 staff could correct me if I'm wrong, but based on
16 what's in black and white in the Licensing Guidance,
17 that's my interpretation.

18 MR. HILL: Agreed. Keeping in mind that
19 for patient care licensees may request permission to
20 have two generators, therefore after six months and
21 return of the first generator they will be able to
22 receive one ahead time as a replacement while the
23 other one is being returned. So I presume there is
24 consideration in Licensing Guidance for having two
25 generators -- permission for two generators when only

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1 one generator is actually being used.

2 MS. ENGLAND: Christina again, if my line
3 still open. It's also important to note that the
4 licensee would need to request this exemption, as it
5 is with any exemption. But this isn't something that
6 is on the onus of the NRC to do. The agreement will
7 have to be presented for analysis by the NRC. It's
8 not something the NRC will need to request.

9 MR. HILL: Thank you.

10 VICE CHAIR ZANZONICO: Thank you both.

11 MEMBER LANGHORST: Dr. Zanzonico, this
12 is Sue Langhorst.

13 VICE CHAIR ZANZONICO: Yes, Dr.
14 Langhorst?

15 MEMBER LANGHORST: I also wanted to
16 clarify that licensees that already possess a
17 Decommissioning Funding Plan will not have to request
18 this exemption and will not have to have this legally
19 binding agreement either. Thank you.

20 VICE CHAIR ZANZONICO: Thank you, Dr.
21 Langhorst, for that clarification. I think that that
22 is essentially stated in the Licensing Guidance, but
23 I appreciate the -- clarifying that point.

24 MEMBER COSTELLO: Dr. Zanzonico, this is
25 Frank Costello.

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1 VICE CHAIR ZANZONICO: Yes, Mr. Costello?

2 MEMBER COSTELLO: Yes, I will point out
3 that most licensees I think who need this exemption
4 or another generator reside in Agreement States. And
5 if that would happen, then they would have to request
6 the Agreement State for the exemption. I don't think
7 the process would be much different, but that's how
8 it would work. You have to request the Agreement
9 State rather than the NRC.

10 VICE CHAIR ZANZONICO: Thank you for that
11 comment.

12 Further comments from the public at this
13 point, or really from anyone who would like to offer
14 one?

15 OPERATOR: I have to remind our
16 participants, if you'd like to ask a question, please
17 press star, one and record your name.

18 At this moment, speakers, I'm showing no
19 questions in queue.

20 VICE CHAIR ZANZONICO: Thank you very
21 much. At this point therefore, since there appear
22 to be no further questions or comments to consider,
23 I believe someone other than myself would need to
24 make a motion to approve the Subcommittee's report,
25 the Subcommittee's draft report on the working

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1 group's Licensing Guidance.

2 MEMBER LANGHORST: This is Sue Langhorst.
3 I'll make such a motion.

4 VICE CHAIR ZANZONICO: Can I hear a
5 second?

6 MEMBER COSTELLO: I second.

7 VICE CHAIR ZANZONICO: So I think at this
8 point the entire Subcommittee -- I'm sorry, the entire
9 Committee, the ACMUI, needs to vote on that motion,
10 which is to approve the Subcommittee's report on the
11 working group's Licensing Guidance and to therefore
12 make it an ACMUI report.

13 So we'll just take a voice vote. All in
14 favor, say aye?

15 (Chorus of aye.)

16 VICE CHAIR ZANZONICO: All those opposed,
17 please say nay?

18 (No audible response.)

19 VICE CHAIR ZANZONICO: The motion is
20 therefore carried unanimously and the Subcommittee's
21 report on the working group's Licensing Guidance is
22 approved unanimously.

23 I think therefore that concludes the
24 business of today's meeting. And I would therefore,
25 before formally closing the meeting, ask if Mr. Fuller

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1 or anyone else from the NRC has a closing comment to
2 make.

3 MR. FULLER: Thank you, Dr. Zanzonico.
4 No, we really don't have any further comments or so
5 forth. We'd like to thank you and the Committee and
6 especially the Subcommittee's time and effort.

7 Sophie, did you have something?

8 MS. HOLIDAY: I'd just like to ask the
9 operator if anybody else has pressed star, one asking
10 staff a question.

11 OPERATOR: Again, participants, if you'd
12 like to ask a question, please press star, one and
13 record your name.

14 One moment to see if we have additional
15 questions in the queue.

16 VICE CHAIR ZANZONICO: Thank you.

17 (Pause.)

18 OPERATOR: At this time I'm showing no
19 questions.

20 MS. HOLIDAY: Thank you so much. Sorry,
21 Mike.

22 MR. FULLER: That's okay.

23 All right. Well again, thank you
24 everyone for your time and your attention to this
25 matter. I know we got some questions on the

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1 Decommissioning Funding Plan, which was really not
2 the purpose of this meeting. I mention that just so
3 that folks would know that we have done that. That
4 document should be publicly available we found out
5 today in a matter of a few days at which time it will
6 be available on our web site.

7 So with that, Dr. Zanzonico, I'll turn it
8 back over to you if you wish to go ahead and adjourn.

9 VICE CHAIR ZANZONICO: Yes, thank you
10 very much.

11 So with that, the meeting is formally
12 adjourned. I thank all of the participants and also
13 again thank the members of the Subcommittee who
14 drafted this report. Thank you all. The meeting is
15 hereby adjourned.

16 (Whereupon, the above-entitled matter
17 went off the record at 2:19 p.m.)

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