



UNITED STATES
NUCLEAR REGULATORY COMMISSION

In the matter of:

STATUS OF TMI-2 MINOR RADIOLOGICAL RELEASE

Place: 1717 H Street, N. W. Washington, D. C.

Date: 2-15-80

Pages: 1-21

INTERNATIONAL VERBATIM REPORTERS, INC.
499 SOUTH CAPITOL STREET, S. W. SUITE 107
WASHINGTON, D. C. 20002
202 484-3550

8002290578

TAPE 4

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12:00

POOR ORIGINAL

1 COMMISSIONER GILINSKY: We will come to order.

2 Go ahead.

3 MR. STELLO: As per your request yesterday and the
4 day before, I went up to Three Mile Island to review the
5 circumstances and the events that occurred on Monday with
6 the leak in the makeup system, and on Tuesday and Wednesday
7 associated with drawing the containment air samples.

8 COMMISSIONER GILINSKY: I might interject here that
9 I asked Mr. Stello to go up to TMI not on the basis of the
10 seriousness of the leaks, the health and safety impact was
11 slight but simply there had been two such events and I wanted
12 him to take a look to see whether or to make sure they were
13 not telling us something that was not right and I asked him
14 to report back to the Commission on that and how the clean-up
15 efforts were proceeding with that, please continue.

16 MR. STELLO: Let me start with the first point you
17 made in terms of the health and safety questions surrounding
18 the two events.

19 Clearly the health and safety issues associated
20 with the releases that occurred both on Monday, Tuesday and
21 Wednesday are not significant. They were not detectable
22 offsite and no major increases offsite though, clearly there
23 had to be releases.

24 It became clear to me in the questioning I guess
25 I had yesterday when I met with the news media that

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of: :
STATUS OF TMI-2 MINOR RADIOLOGICAL :
RELEASE :

Commission Conference Room
Room 1130
1717 H Street, N. W.
Washington, D. C.
Friday, February 15, 1980

The Commission met, pursuant to notice, for presentation of the above-entitled matter, at 10:05 a.m.

Victor Gilinsky, presiding.

BEFORE:

- VICTOR GILINSKY, Commissioner
- RICHARD T. KENNEDY, Commissioner
- JOSEPH HENDRIE, Commissioner
- PETER BRADFORD, Commissioner

1 in the releases.

2 They are staying in this neighborhood of 70-80 of
3 January is somewhat higher, the last several months we are
4 in the ballpark of the 70 or 80 curies per month.

5 COMMISSIONER HENDRIE: That amounts to you say
6 perhaps to seven or eight percent of the releases from a
7 normally operating plant which would be drawing no interest
8 at all.

9 MR. STELLO: The average of a normal operating
10 plant is in the order of about a thousand curies per month
11 and I did cite that the early days of the accident when the
12 offsite releases were measureable that even those as we
13 now know turned out to be not significant were several
14 million curies in a day.

15 So, that the magnitude of the problem --

16 COMMISSIONER KENNEDY: In other words what you
17 are saying here is that the amounts involved are miniscule
18 on the one hand and certainly not significant from a public
19 health and safety standpoint on the other hand; is that
20 correct?

21 MR. STELLO: That is correct.

22 Let me start with the general observation of when
23 I got up there and I noticed what I considered to be a
24 very significant improvement in overall plant conditions,
25 the housekeeping and the attitude of keeping the plant in

1 are that the releases u there are in fact continuing and
2 they do continue they a e very low in terms of releases
3 associated with release from a normally operating plant
4 which might average a t ousand curies a month.

5 Up at Three Mile Island, they are averaging in the
6 order 70-80 curies a month and that is not high especially
7 in light of the situation that does clearly exist there.

8 The releases f two to three hundred millicuries
9 Monday and four curies Tuesday and Wednesday are expected.

10 They are occurring they have occurred in the past,
11 and they clearly will continue to occur in the future.

12 But there a number of things that must be done in
13 the plant in terms of sampling containment air, sampling the
14 primary coolant, operating equipment with highly contaminated
15 water in them, such leaks associated with it and these releases
16 will in fact go on.

17 Over a time they may change some what. They probably
18 will go up a little bit from time to time and overall it
19 might go down a little bit.

20 But, I will not expect any, routinely to see
21 significant changes.

22 That seems to be an area that became clear to
23 me that there was some misunderstanding that these releases
24 are in fact continuing.

25 The results of my looking at and reviewing the

1 and it was quite evident to me that the improvements were
2 real dramatic in the situation that existed following the
3 accident. In my tour of the plant I was quite impressed
4 at the overall.

5 I looked carefully into the events that occurred
6 on Monday. I think the issue on Monday, the seriousness of
7 that issue was that there was a failure of equipment.

8 There was an instrument line which had a tap
9 connected to it so that they could make pressure measurements
10 and it was connected up to a tee to an instrument line that
11 went to a pressure transmitter.

12 That valve was connected with the pressure fitting
13 which failed and the line opened up, and that was the source
14 of the leakage and the total amount of leakage was about
15 seven hundred to a thousand gallons in that neighborhood.

16 The source of the activity associated with that
17 release was from the ^KKrypton which is about .08 micro curies
18 per cc in the primary coolant water and that is eventually
19 we found out, of course, that is not removed from the system
20 by filters.

21 What I was interested in was the performance of
22 the plant equipment, identifying the leak, how they want it,
23 and the fact that it was identified and it was repaired and
24 is now isolated and the two makeup pumps that were available
25 before are available for service now.

1 system that was installed after the accident and are continuing
2 to do that for evaluating whether it would be useful to go
3 back into the makeup pump to be making that decision within
4 the next several days.

5 It is not clear that that is necessary, but all
6 facts relating whether that is a good idea or a bad idea
7 are being considered.

8 COMMISSIONER BRADFORD: Vic, is crypton the only
9 gas that comes out of the water, or are there other gases
10 that come out and are in fact trapped by the filters?

11 MR. STELLO: Well, the only gases of concern from
12 the radio-nuclear point of view are the noble gases which
13 are decayed off except for the ^Krypton and that is essentially
14 decayed and that is about the only gases that you have in
15 the water.

16 COMMISSIONER BRADFORD: You are saying it doesn't
17 admit significant amounts of iodine any more, or you are
18 saying it does, but the filter catches it.

19 MR. STELLO: You do not have any more radioactive
20 iodine of any amounts, I do not think the number I saw in
21 the last sample I do not even think they measured any but
22 I am always very careful about saying zero because that is
23 so absolute. Very, very tiny, if any and that would be
24 insignificant and that would be commensurate with the
25 decay time that you had so you would not expect.

1 staff up there was very favorably impressed at the way the
2 licensee handled the incident.

3 Their actions were very deliberate and very thought
4 out and the course of action that they had to take the way
5 in which people went in, the survey teams and the people who
6 repaired the leak it was done carefully, and I think the
7 general impression I got from talking with people, the impression
8 I got from talking with the staff up there, they think it
9 went fairly well.

10 We are quite confident in the way they went about it.

11 I do not see any concern with respect to that
12 particular incident. There are some comments that I want
13 to observe later which relate to the issue of attainability
14 of surveillance with equipment --

15 COMMISSIONER GILINSKY: Do you regard the licensee
16 of being able to deal effectively with any other such events
17 which might occur, failures?

18 MR. STELLO: Well, let me get back to that.

19 Let me cover very quickly the second incident that I do not
20 think things are not quite as favorable.

21 The first one was the leak in the line which has
22 been repaired and the second one which occurred Tuesday,
23 I should be hesitant to call it a leak. They have to
24 take samples of the containment to measure the atmosphere
25 inside of the containment.

1 plan on the clean up operation with the gasses in there and
2 the course of action you are going to have to follow. So,
3 it is very important information to have.

4 So, you have to periodically sample the air.
5 As they understand more and more about it, it needs to be
6 changing in the way one goes about taking samples, but what-
7 ever sample is taken the system does leaks in it would not
8 suggest that it is ailing it is probably ailing in several
9 places, it is very difficult to find it they have been looking
10 at it and they are looking at new designs to try to get
11 around that problem, since there is going to be a continuing
12 need to do this.

13 That has been recognized and the procedures developed
14 for taking these samples.

15 The procedures are evolving because of the change
16 in the technical information is needed with time as things
17 develop and I am always learning you have to do things
18 somewhat differently.

19 The precaution that is built into the procedure
20 sets a limit so that whenever the current level or release
21 activity is measured in the stack it is three times greater
22 than the particular activity that in terms of sampling
23 whatever is to be stopped until an assessment is made
24 before that continues.

25 COMMISSIONER GILINSKY: Three times greater than

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MR. STELLO: If they were running at 30 counts per minute an instrument measurement was going out to stack that that went to 90, and at that point they are to stop and that is built into the procedures.

COMMISSIONER KENNEDY: Stop the operation.

MR. STELLO: Stop that operation and make an assessment to find out what is going on. You fully, as I said when you take a sample you will have some release and that is recognized and built into the procedure.

Unfortunately, based on what I looked at it appears that they exceed it, to the factor of three. That it should have been exercised in looking at that and it was not exercised they should have used better judgment and checked these instruments more carefully.

There performance is not what it should have been. I do not believe the increase that was there however is significant.

The maximum appeared to go up instead of three times, it was four times and if you look at the charts very quickly there are places in the charts where it is three times and two of the charts did not show any increase and two did.

COMMISSIONER GILINSKY: That particular procedure was not followed; is that what you are saying?

MR. STELLO: That part of the procedure was not

1 I guess I am sad to say that I am also disappointed
2 with the performace that we had done a good job.

3 I found out that one of the inspectors did in fact
4 observe the instrument had increased and brought that to
5 the attention of people in the staff up here as well as to
6 the attention of the shift supervisor that was not pursued
7 like I think it should be and must be and I need to go back
8 and look at that even more before I make final judgments
9 to say whether the people have done the jobs they should have.

10 The circumstances that were surrounded were such
11 that the event on Monday caused a sensitivity since the
12 perception was the people were concered with the two to
13 three hundred military number, and clearly the increase
14 that they saw on the monitors the factor of three would
15 indicate releases beyond that and clearly they were, they
16 were four curies; and it was for that purpose that he looked
17 at it and brought it to people's attention.

18 He did the very right thing in terms of making
19 an assessment, was there any health and safety problems
20 in terms of that release, and very quickly concluded that
21 there was not.

22 The individual who made that assessment was not
23 aware, and neither were the other people that this factor
24 three was in the procedure and the reason for that probably
25 as related to some questions I also want to come back to is

1 people are there that are since transients, people who come
2 in for a few weeks and perhaps we have to examine with the
3 evolution procedure we need to have people permanently assigned
4 more than we have now, and in the past.

5 COMMISSIONER GILINSKY: What is the practice, you
6 rotate personnel?

7 MR. STELLO: We have a corp of about four or five
8 people who are permanently assigned and to augment them there
9 are inspectors and people from headquarters and the NRR who
10 go up for a period of several weeks and rotate the new people.

11 COMMISSIONER GILINSKY: What is the total compliment
12 up there?

13 MR. STELLO: Approximately, about a dozen.

14 That makes it difficult to know the details about
15 a procedure and it clearly is very difficult. There are
16 many, many procedures and if you are only there for a short
17 period of time it is going to be very difficult to do that.

18 Nevertheless, I am very disappointed, but we have
19 to look at our performance as well.

20 With respect to future events and the sampling
21 I think clearly in this particular issue there will be
22 sensitivity to it but there are going to be releases, you
23 are not going to get away from it unless you prevent
24 sampling, and if you prevent sampling, then the clean-up
25 operation that is part of the question.

1 at which progress is being made in terms of clean up.

2 I obviously did not have sufficient time to offer
3 judgment but I did conclude that I think it is necessary
4 and would start by assigning some people and giving them
5 a fairly short timetable two weeks to make an assessment as
6 to the rate of clean up proper, are there delays in the
7 process, are the things that it is causing the clean up
8 to proceed at a pace slower than it should.

9 COMMISSIONER KENNEDY: What is the source of that
10 delay?

11 MR. STELLO: I think what I would propose is to
12 have someone examine that, I have some areas that I think
13 need to be looked at and I most certainly intend that that
14 include us, us and the agency's actions and the ability of
15 the agency to make title and decisions and to the kinds of
16 decisions the agency ought to make, you know, what level
17 it ought to be made at.

18 COMMISSIONER GILINSKY: Let me ask you is the
19 equipment deteriorating at an unexpected rate or at a rate
20 different than we had projected in launching on this course?

21 MR. STELLO: I do not see any evidence that the
22 equipment would perform in any less than a satisfactory --
23 I think you had more than a satisfactory performance of
24 the equipment, but you must expect failures, such at the one
25 that occurred Monday, an instrument line failing. The

1 event of a small instrument line.

2 That suggests that there is a need to get into
3 the reactor building and there are instrument lines in
4 the reactor building and have access to go in and look around
5 and make an assessment.

6 There has been no surveillance in the reactor
7 building now in excess of a year.

8 We need to look at, is there a way in which that
9 can be done faster than in the present process that we have
10 placed including all of the issues.

11 The need for us to have the environmental statements
12 that we have. The impact of those.

13 The workload that it imposes on the staff, our
14 staff as well as the licensees.

15 Can judgments be made more effectively, more
16 efficiently, more timely?

17 I think it is a very important task that I would
18 like to do unless -

19 COMMISSIONER GILINSKY: It strikes me at something
20 we ought to take a look at. I think it probably ought to
21 involve more than just your office, and I would suggest --
22 is the Executive Director here, Mr. Dircks here? Well, they
23 were here.

24 MR. STELLO: My proposal, it was clearly beyond
25 just the resources and the kind of understanding from my

1 I had already spoke to Mr. Denton and Mr. Case in
2 some detail about taking on such a task and they have agreed
3 they would be more than willing to participate.

4 I think since some procedural questions need to
5 be addressed and I think you ought to have a representative
6 from ^GOPC and ELD perhaps and maybe OPE, on the group, and
7 I would propose to have a very short timetable since timeli-
8 ness is what we talked about and I am thinking in terms of
9 something like in two weeks to have an assessment and come
10 up with some recommendations about where you think things
11 ought to be changed if they in fact need to be changed and
12 to be changed quickly.

13 COMMISSIONER KENNEDY: I for one support that
14 and urge that to be done.

15 COMMISSIONER GILINSKY: Well, I propose that
16 we ask the Executive Director to -- I am in favor of such
17 a look -- that we ask the Executive Director to form up
18 the group --

19 COMMISSIONER KENNEDY: I suggest that he start
20 doing that this afternoon, that is my point.

21 COMMISSIONER GILINSKY: I agree with that too.

22 COMMISSIONER KENNEDY: I do not wish to come back
23 next Tuesday and discuss this again. I think we ought to
24 get at it because certainly the purpose of regulation is
25 to protect the public health and safety, not be part of the

1 MR. STELLO: I was not concluding that we are part
2 of the problem --

3 COMMISSIONER KENNEDY: I am not suggesting that either
4 I am suggesting that we need to find --

5 MR. STELLO: I was not precluding that either.

6 COMMISSIONER GILINSKY: Well, I think there are
7 many parts of the problem, I am sure. But, I would like
8 us to take a look at that situation to see whether there are
9 things that we ought to be doing or the licensee ought to
10 be doing to conduct that clean up more effectively.

11 Do you have any thoughts about this, Peter?

12 COMMISSIONER BRADFORD: No, I am going ahead with
13 that is fine.

14 COMMISSIONER GILINSKY: It is just that it involves
15 more than your office, although, obviously you work is going
16 to be a very large part of that.

17 I would like Mr. Dircks to form that up and why
18 don't --

19 MR. STELLO: With your concurrence I will get with
20 Mr. Dircks and I will make sure that he is aware that you
21 are going to hold him responsible for getting it done.

22 COMMISSIONER KENNEDY: And, as far as I am concerned,
23 I am hoping that he will get to work on it this afternoon
24 rather than sort of -- our typical exercise of preparing
25 a long plan for getting it done, but never getting to do it.

1 COMMISSIONER GILINSKY: Actually, the other part
2 that I started a few days ago and I did want an overall look
3 at this question.

4 A part from that larger look, do you see a need
5 for making sure that MET ED and our own people are paying
6 greater attention to procedures and other ways of going forward
7 out there?

8 MR. STELLO: Yes, I think I have sensitized the
9 licensee.

10 COMMISSIONER GILINSKY: Do you feel that that part
11 of it has been handled at least for the moment?

12 MR. STELLO: And, I am reasonably convinced that
13 it will be handled with a lot more emphasis in the future.
14 I think we have some questions we have to ask ourselves
15 about the way we are staffing and that we ought to take
16 another look at it in terms of do they really have enough
17 resources?

18 COMMISSIONER KENNEDY: The way we are staffing,
19 or the way they are staffing?

20 MR. STELLO: We are. In order to improve our
21 ability to monitor how well the procedures are, because I
22 think we can have a very large effect on it. They do not
23 get a procedure in that control room without going through
24 us and you know that part of the process is there and I
25 can see that that was one, how about the ability of the

1 the staff has to be looked at in terms of how many people
2 are permanent so that they can really have the time needed
3 to become familiar with the procedures as they must in order
4 to assure compliance of the performance.

5 COMMISSIONER GILINSKY: The bottom line has got to
6 be protection of the public and that may mean moving faster,
7 it maybe moving slower, but I think we have to take a hard
8 look at it and exactly what is being done up there.

9 MR. STELLO: Well, I already have a judgment about
10 moving slower as time --

11 COMMISSIONER GILINSKY: No, I gather --

12 COMMISSIONER KENNEDY: Well, so long as that is
13 there it presents a potential risk for the public health and
14 safety and the objective therefore ought to be get rid of it.

15 MR. STELLO: Absolutely.

16 COMMISSIONER GILINSKY: Well, to do it right.

17 COMMISSIONER KENNEDY: Well, of course.

18 MR. STELLO: Well, the need to get in that reactor
19 building is not one that I attach little significance to and
20 I want to make sure that somebody looks at that and find out
21 how long that is going to take, and what decisions we need
22 to make --

23 COMMISSIONER GILINSKY: Well, we have a meeting
24 shortly after lunch and I think we can take that matter up
25 at that point.

1 COMMISSIONER HENDRIE: I just want to comment.
2 Vic, you told me the other day what the estimated radiation
3 dose at the closest point offsite would be from venting of
4 the 50 thousand odd curies of crypton in the containment
5 and that was what?

6 MR. STELLO: .1mr

7 COMMISSIONER HENDRIE: A tenth?

8 MR. STELLO: A tenth of an mr.

9 COMMISSIONER HENDRIE: But a tenth of an individual
10 dose, a tenth of an mr; or less than 10% of the daily radiation
11 dose to everyone in the area from that natural background which
12 the good Lord has provided to us all.

13 Monday's incident then, it looks to me, being down
14 from that by a substantial factor would have resulted in a
15 maximum dose of somewhere around a millionth, or a few
16 millionths of a millirem maximum and the Tuesday/Wednesday
17 items perhaps as much as one ten-thousandth of a millirem.

18 We are dealing in radiation exposures, which are
19 so trivially small, that to find ourselves tied up in knots
20 over a possible public hazard about exposures of this level
21 makes no sense whatsoever.

22 I concur in the action to examine how we can
23 expedite getting on with this process.

24 The events of the last few days which in my
25 view have no significance for public health and safety, do

1 and get the fission products at Three Mile Island out of water
2 and out of a gaseous atmosphere in the containment where they
3 can leak if somebody makes a mistake or equipment fails, and
4 get those fission products fixed in appropriate chemical or
5 mechanical retaining barriers, ion beds, or what have you and
6 while we go on and study the process and litigate and
7 environmentally impact one another with our studies and so
8 on we continue to allow possible public hazard to exist down
9 there.

10 So, I think we ought to get on with it and I think
11 this nonsense of going into hysterics about maximum radiation
12 exposures at 10% of the daily natural background is just
13 beyond belief for a supposedly rational and educated society.

14 COMMISSIONER KENNEDY: Let me join 100% in that
15 statement.

16 COMMISSIONER GILINSKY: Well, as Jamie Whitton used
17 to say, there is not any zero any more.

18 COMMISSIONER BRADFORD: Well, furthermore, I would
19 not trivialize the Monday matter all together.

20 There is the matter of worker exposures as well,
21 and one need not regard the matter as absolutely trivial
22 to agree with the proposition that one does not want it
23 slouthing around in liquid and gaseous forms, but the fact
24 is that if the Company or we or anyone else handles it
25 sufficiently carelessly that workers start getting doses

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2 and out of a gaseous atmosphere in the containment where they
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22 to agree with the proposition that one does not want it
23 slouthing around in liquid and gaseous forms, but the fact
24 is that if the Company or we or anyone else handles it
25 sufficiently carelessly that workers start getting doses

1 a subject of NRC concern.

2 COMMISSIONER GILINSKY: Well, at any rate, we all
3 are agreed that we want to take a hard look at this and we
4 will launch that today.

5 MR. STELLO: If I can add one more point which I
6 wanted to include in what I think this assessment has to
7 include as well as timing.

8 The need to examine very carefully what the
9 envelope is. Are we requiring this plant to meet release
10 rates that are more restrictive than are required to normally
11 operating plants, if that is so, is that meaningful.

12 We really have an envelope to insure that as the
13 equipment is being designed for the future operations that
14 we know those decisions are made now because they can
15 significantly affect -- I will start on that this afternoon.

16 COMMISSIONER GILINSKY: Could you take 60 seconds
17 to tell us about Calvert Cliffs where there was again very
18 minor release but there was some question about whether the
19 procedures were followed in recording.

20 MR. STELLO: I think it is appropriate to call it
21 a minor release. I asked for what was the maximum release
22 and would be the expected offsite exposure and now we have
23 to talk in terms of micro-r, it was 8mr. If zero does not
24 exist you can get pretty close.

25 COMMISSIONER HENDRIE: At the micro-r I have a

1 mile of some guy smoking a cigarette.

2 It just surpasses belief that we have to consider
3 things at this level.

4 MR. STELLO: Well, I do not want to get into details,
5 unless you want to.

6 COMMISSIONER GILINSKY: Was there a question about --

7 MR. STELLO: I am unhappy about it and I am
8 unhappy that we were not notified in a way that I think we
9 ought to be notified.

10 This problem is solved --

11 COMMISSIONER KENNEDY: As you already know from
12 my letter to you, so am I.

13 MR. STELLO: So, I won't have to answer your letter.

14 COMMISSIONER KENNEDY: Oh, indeed you will because
15 I would like to know what actually did happen.

16 COMMISSIONER GILINSKY: How was the matter getting
17 solved?

18 MR. STELLO: Well, we have a regulation, now we
19 will make this a requirement.

20 COMMISSIONER GILINSKY: And when does that go
21 into course?

22 MR. STELLO: I signed the package and it is going
23 to the Federal Register before I left this morning.

24 COMMISSIONER GILINSKY: Very good.

25 MR. STELLO: But that is the part about it that

I am not satisfied with. I think that in spite of the fact

end

1 that these things are inconsequential in terms of the health
2 hazard, I would still like to know about it in a timely way --

3 COMMISSIONER HENDRIE: Worry about it to the extent
4 that it maybe indicative of a practice or some failure in
5 procedures or a practice which could lead to more serious
6 things.

7 COMMISSIONER GILINSKY: Well, that is precisely
8 right, and that is precisely why I wanted Victor to go up
9 to the Three Mile Island.

10 MR. STELLO: Even when the procedure, when it
11 is not followed, it does not create a problem in terms of
12 offsite exposures, my view is that the procedures are there
13 to be followed and when they are not followed then, I am --

14 COMMISSIONER GILINSKY: Well, they are there
15 to keep us some distance from trouble. That we do not
16 want that margin infringed upon.

17 MR. STELLO: Okay, I think that is about some of
18 what I think needs to be said about it.

19 COMMISSIONER GILINSKY: Very good, thank you
20 very much.

21 (Whereupon the meeting
22 was adjourned at 12:30.)

**IV. STAFF REVIEW OF
PRE-TMI MATTERS**

CHRONOLOGY OF PRE-TMI REVIEW ON SEQUOYAH

Application Docketed	10/15/68
Construct Permit Received	5/27/70
DES Issued by TVA	10/71
Submit FSAR	1/31/74
FES Issued by TVA	2/74
SER Published	3/79
Draft DES Permit Issued	3/15/79
Final DES Permit Issued	5/29/79
ACRS MEETINGS	
Subcommittee Meetings	3/12/79, 10/79
Full Committee	4/06/79, 5/11/79, 12/7/79
ACRS Letter	12/11/79

PRINCIPAL ELEMENTS OF AN OPERATING LICENSE

Contains Findings in Accordance With 10 CFR 50.57 Relative to:

- Construction
- Operation
- Public Health & Safety
- Common Defense & Security
- Technical & Financial Qualifications
- Balancing Benefits Against Environmental & Other Costs

License Authorizes

- Possession, Use & Operation of Facility
- Possession, Use & Storage of Special Nuclear (Byproduct & Source) Materials

License Conditions

- Maximum Power Level
- Technical Specifications

Special Restrictions

- Special Test Program (<5% Power)
- Environmental
- Physical Security Plan

SEQUOYAH PRE-TMI 2 ISSUES

1. Bolted Connections
2. Seismic Qualification of I&C Equipment
3. Fire Protection
4. Radiological Emergency Plan
5. Plant Trip Test
6. ATWS Interim Procedures
7. Foundations
8. Reactor Vessel Closure Head
9. Guide Thimble Tubes
10. Grid Straps
11. Control Spiders
12. Rod Drop Transient
13. Operator Training
14. By-Pass Leakage
15. Secondary Water Chemistry
16. Steam Generator Level Instrumentation
17. Containment Overpressurization Due to MSLB
18. Non-Safety Systems
19. Single Failure in RHR
20. Pressure-Temperature Limits
21. Inservice Inspection of SG Tubes
22. Cold Shutdown
23. Design of SG and Pressurizer Supports
24. Environmental Qualification of W Equipment
25. Upper Head Injection Tests
26. Containment Sump
27. Bypassed Safety Injection Signal
28. Loss-of-Coolant Accident Analysis
29. Response Time Testing
30. Isolation Valve Interlocks
31. Post-Accident Monitoring Separation Criteria
32. Environmental Qual. of Bal.-of-Plant Equipment
33. Diesel Generator & Remote Shutdown Testing
34. Boron Dilution
35. Long-Term Effects of Steam Line Break
36. Seismic Design of Structures & Components
37. Inservice Testing After Commercial Operation
38. Reactor Vessel Overpressurization
39. Loose Parts Monitor

PRE-TMI MATTERS

- FIVE OUTSTANDING ISSUES FROM 3-79 SER
- THIRTEEN ADDITIONAL MATTERS AROSE FROM 3-79 TO DATE
- SEVENTEEN CONFIRMATORY MATTERS WERE CITED IN SER
- FOUR POSITIONS ESTABLISHED CONCERNING WORK TO BE DONE AFTER OL
ISSUANCE

TOTAL OF 39 PRE-TMI MATTERS

STATUS

5 OUTSTANDING ISSUES FROM SER

1. BOLTED CONNECTIONS (Sec. 3.9.2)

INTEROFFICE TEAM REVIEWING GENERICALLY; CONCLUSION AT PRESENT IS THAT MATTER IS SETTLED AT LEAST FOR LOW-POWER OPERATION.

2. SEISMIC QUALIFICATION (Sec. 7.2.2; 7.8.1)

CONFIRMATORY WORK NEEDED BY TVA; LOW-POWER OPERATION ACCEPTABLE.

3. FIRE PROTECTION (Sec. 9.5)

COMPLETE.

4. RADIOLOGICAL EMERGENCY PLAN (Sec. 13.3)

DISCUSSED IN TMI SECTION.

5. ACCEPTANCE CRITERIA FOR PLANT TRIP TEST (Sec. 14.6)

CLOSED.

THIRTEEN NEW ITEMS

1. ATWS INTERIM PROCEDURES (Sec. 15.2)

TO BE RESOLVED PRIOR TO GOING ABOVE 5% POWER.

2. FOUNDATIONS (Sec. 2.6)

RESOLVED.

3. REACTOR VESSEL CLOSURE HEAD (Sec. 3.2)

FLAW SIZE ACCEPTABLE BASED ON ANALYSIS; IST NEEDED; RESOLVED.

4. GUIDE THIMBLE TUBES (Sec. 4.2)

SURVEILLANCE NEEDED TO OBSERVE WEAR ON GUIDE THIMBLE TUBE WALLS; RESOLVED.

5. GRID STRAPS (Sec. 4.2)

RESOLVED BY PROCEDURAL CHANGES.

6. CONTROL SPIDERS (Sec. 4.2)

RESOLVED.

7. ROD DROP TRANSIENT (Sec. 4.2)

RESOLVED BY ROD INSERTION LIMITS ABOVE 90% POWER.

8. OPERATOR TRAINING (Sec. 13.2)
DISCUSSED IN TMI SECTION.
9. BYPASS LEAKAGE (Sec. 15.4.1)
10. SECONDARY WATER CHEMISTRY (Sec. 5.3.1)
RESOLVED.
11. STEAM GENERATOR LEVEL INSTRUMENTATION (Sec. 7.2)
RESOLVED.
12. CONTAINMENT OVERPRESSURIZATION DUE TO MSIB (Sec. 15.3.3)
RESOLVED.
13. NONSAFETY SYSTEMS (Sec. 15.3.3)
TVA RESPONSE TO IE NOTICE 79-22 ACCEPTABLE.

SEVENTEEN CONFIRMATORY ISSUES

1. SINGLE FAILURE IN PWR SYSTEM (Sec. 5.3.2)

RESOLVED BY OPERATOR ACTION OR NEW ALARM, TO MONITOR FOR LOW-FLOW CONDITIONS.

2. P-T LIMITS FOR HEATUP, COOLDOWN (Sec. 5.2.3)

RESOLVED.

3. ISI SG TUBES (Sec. 5.2.6)

RESOLVED.

4. COLD SHUTDOWN USING SAFETY-GRADE EQUIPMENT (Sec. 5.3.2)

RESOLVED.

5. DESIGN OF SG, PZR SUPPORTS (Sec. 3.9.1; 6.2)

RESOLVED.

6. CONTAINMENT RESPONSE TO SLB; ENVIRONMENTAL QUALIFICATIONS OF EQUIPMENT
(Secs. 6.2.1; 7.2.2; 7.8.2)

MORE WORK TO BE DONE ON QUALIFICATIONS; RESOLVED FOR $\leq 5\%$.

7. LHI PRE-OP TESTS (Sec. 6.3.4)

RESOLVED.

CONFIRMATORY ISSUES CONTINUED -2-

8. CONTAINMENT SUMP (SEC. 6.3.4)
RESOLVED; HOWEVER, FURTHER WORK CONTINUES ON USI # A-43 WRT
CORE BLOCKAGE FROM DEBRIS SUCH AS INSULATION.
9. BYPASSED SI SIGNAL (SEC. 6.3.5)
RESOLVED.
10. LOCA (SEC. 6.3.5; 15.3.2)
RESOLVED.
11. RESPONSE TIME TESTING (SEC. 7.2.2)
RESOLVED.
12. ISOLATION VALVE INTERLOCKS AND POSITION INDICATION (SEC. 7.3.2)
RESOLVED.
13. POST-ACCIDENT MONITORING SEPARATION CRITERIA (SEC. 7.5.2)
RESOLVED.
14. ENVIRONMENTAL QUALIFICATION OF BOP EQUIPMENT (SEC. 7.8.2)
RESOLVED.
15. DG AND REMOTE SHUTDOWN TESTING (SEC. 14.0)
RESOLVED.
16. BORON DILUTION (SEC. 15.2)

V. CONCLUSIONS

17. LONG-TERM EFFECTS OF SLB (SEC. 14,3,3)

RESOLVED.

FOUR POST-OL POSITIONS

1. SEISMIC DESIGN OF STRUCTURES AND COMPONENTS (SEC. 2.5)

STAFF AUDITS ON SEISMIC MARGIN TO CONTINUE, PER ACRS REQUEST.

2. IST AFTER COMMERCIAL OPERATION (SEC. 3.9.1)

CONDITION LICENSE TO ASSURE ACCEPTABLE IST PROGRAM FOR PUMPS AND VALVES.

3. REACTOR VESSEL OVERPRESSURIZATION (SEC. 5.2.2)

LICENSE WILL BE CONDITIONED TO REQUIRE INSTALLATION OF MORE EQUIPMENT BY END OF FIRST REFUELING.

4. LOOSE PARTS MONITOR (SEC. 5.2.8)

SYSTEM WILL BE INSTALLED PRIOR TO LOW-POWER TEST PROGRAM.

SUMMARY

A. 5 OUTSTANDING ISSUES

ALL RESOLVED, AT LEAST FOR LOW-POWER ($\leq 5\%$) OPERATION.

B. 13 NEW ITEMS

ALL RESOLVED, AT LEAST FOR LOW-POWER OPERATION.

C. 17 CONFIRMATORY ISSUES

ALL RESOLVED, AT LEAST FOR LOW-POWER OPERATION.

D. 4 POST-OL MATTERS

WILL BE RESOLVED EITHER BY LICENSE CONDITIONS OR BY STAFF EFFORT.

UNRESOLVED SAFETY ISSUES OF THE SEQUOYAH NUCLEAR PLANT

1. A-1 WATER HAMMER
2. A-2 ASYMMETRIC BLOWDOWN LOADS ON PWR PRIMARY SYSTEMS
3. A-3 WESTINGHOUSE STEAM GENERATOR TUBE INTEGRITY
4. A-9 ATWS
5. A-11 REACTOR VESSEL MATERIALS TOUGHNESS
6. A-12 FRACTURE TOUGHNESS OF STEAM GENERATOR AND REACTOR COOLANT PUMP SUPPORTS
7. A-17 SYSTEMS INTERACTIONS IN NUCLEAR POWER PLANTS
8. A-36 HEAVY LOADS NEAR SPENT FUEL
9. A-40 SEISMIC DESIGN CRITERIA
10. A-43 CONTAINMENT EMERGENCY SUMP RELIABILITY
11. A-44 STATION BLACKOUT

ASSIGNMENT OF NRR PERSONNEL FOR THE SEQUOYAH STARTUP AND LOW POWER TEST PROGRAM

