

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555



*file
Dingell Hearing
June 27 1979
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MEMORANDUM FOR: Chairman Hendrie
Mr. Dircks / *CL*
FROM: Carlton Kammerer, Director
Office of Congressional Affairs
SUBJECT: TRANSCRIPT OF DINGELL HEARING ON SPENT FUEL

Attached for your review and correction is a copy of the transcript of the hearing held by the Subcommittee on Energy and Power on H.R. 2586, concerning spent fuel storage.

Please return the edited copy to OCA.

Enclosure:
As stated

contact: Steve Kent (41443)

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PDR COMMS NRCC
CORRESPONDENCE PDR

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1 H.R. 2586STORING AND DISPOSAL OF SPENT FUEL
2 WEDNESDAY, JUNE 27, 1979
3 House of Representatives
4 Subcommittee on Energy and Power of theCommittee on
5 Interstate and Foreign Commerce
6 Washington, D.C.
7

8 The subcommittee met at 10:00 a.m., pursuant to recess, in
9 room 2123, Rayburn House Office Building, Hon. John D.
10 Dingell (chairman of the subcommittee) presiding.

11 Present: Representatives Dingell, Markey, Swift and
12 Corcoran.

13 Mr. Dingell. The subcommittee will come to order. This
14 morning the subcommittee continues its consideration of
15 matters relating to the storage and disposal of spent fuel.
16 Included in that consideration is the provisions of H.R.
17 2586. This morning we are honored to have the distinguished
18 chairman of the Nuclear Regulatory Commission, the Honorable
19 Joseph R. Hendrie, before us.

20 Mr. Hendrie, we thank you for being with us. If you will
21 come forward and identify yourself for the purpose of the
22 record and if you wish call such of your associates and
23 staff as you desire, identifying each of them for the
24 purpose of the record, we will be most pleased to receive
25 your statement.

26 STATEMENT OF THE HONORABLE JOSEPH R. HENDRIE, CHAIRMAN OF THE
27 NUCLEAR REGULATORY COMMISSION; ACCOMPANIED BY WILLIAM
28 DIRCKS, DIRECTOR OF OFFICE OF NUCLEAR MATERIAL, SAFETY AND
29 SAFEGUARDS

30 Mr. Hendrie. Thank you, Mr. Chairman. I am going to at
31 least start out up here by myself but there are members of
32 the staff in the audience to deal with detailed questions.
33 My name is Joseph R. Hendrie. I am the chairman of the
34 Nuclear Regulatory Commission.

35 We appreciate this opportunity to discuss legislative
36 approaches to implementing the storage and disposal of spent
37 nuclear fuel and other high level radio active waste.

38 My remarks this morning, Mr. Chairman, will address some
39 of the difficult issues identified in your invitation which
40 requested the Commission's views on the legislative
41 proposals now under consideration by this committee. My
42 remarks will focus on spent fuel, the Commission's licensing
43 authority over DOE storage facilities for spent fuel, the
44 recommendations by the interagency review group on nuclear
45 waste and management, state participation in waste facility
46 licensing and federal responsibility for providing interim
47 storage and ultimate disposal of spent fuel.

48 I will also submit for the record detailed replies to your
49 questions and the Commission's comments on specific
50 provisions in H.R. 2586.

51 Mr. Dingell. Without objection, those will appear in the
52 record at the appropriate place.

53 Mr. Hendrie. Thank you, Mr. Chairman.

54 As you know, Mr. Chairman, growing quantities of radio-
55 active waste, including spent fuel, are being generated by
56 commercial users of radioactive materials, especially the
57 nuclear power industry. The continuing accumulation of
58 waste volume and spent fuel has been accompanied by growing
59 public concern over the continuing absence of final
60 radioactive waste disposal facilities.

61 Spent fuel is currently accumulating in spent fuel pools
62 at reactors throughout the United States. The NRC has
63 evaluated the environmental impacts of the accumulating
64 spent fuel and has published a draft Generic Environmental
65 Impact Statement, GEIS, on this subject.

66 The GEIS concluded that there is a need for additional
67 storage capacity to accommodate some of the accumulating
68 spent fuel. The GEIS also concluded that additional storage
69 facilities would have negligible environmental impacts,
70 whether they were located on-site at reactors or at separate
71 sites away from reactors.

72 In anticipation of requests to license away-from-reactor
73 facilities, the NRC has developed and published for comment
74 draft regulations for licensing of spent fuel in an inde-
75 pendent spent fuel storage installation.

76 To date, no operating reactor has had to cease operation
77 because of a lack of storage space for spent fuel. There
78 are, at the present, almost 15,000 fuel assemblies stored in
79 power reactor pools and approximately 5,000 additional
80 assemblies are added each year. Most utilities have
81 accomplished or proposed modifications which will provide
82 sufficient storage for five to 10 additional years of plant
83 operation.

84 However, some facilities are approaching the physical
85 capacity limits of their existing pools and no federal
86 facility for permanent disposal of spent fuel exists today.
87 There is a development program underway within the
88 Department of Energy which has been reviewed by a
89 Presidentially established Interagency Review Group.

90 We understand that the DOE plan under development would
91 result in additional interim spent fuel storage facilities
92 by 1983-1984 and a geologic repository for permanent
93 disposal of high-level waste by the early to mid 1990s.

94 The relation between spent fuel storage and ultimate
95 disposal was emphasized in a May 23, 1979, decision by the
96 United States Court of Appeals for the District of Columbia
97 Circuit. In Minnesota v. NRC, a case related to the
98 expansion of spent fuel pools at the Vermont Yankee and
99 Prairie Island power plants, the Court remanded to the
100 Commission consideration of the following issues:

101 One, whether there is reasonable assurance that an
102 off-site solution will be available when the operating
103 licenses for these plants expire and if not, two, whether
104 there is reasonable assurance that spent fuel can be stored
105 safely on site beyond those expiration dates.

106 The Commission has not had an opportunity to fully analyze
107 this decision and determine the appropriate scope and
108 procedures for a proceeding consistent with the Court's
109 decision. The Commission is considering these matters and
110 will inform you of our proposed actions.

111 As to NRC licensing authority, H.R. 2586 recognizes the
112 need for additional storage capacity for spent fuel and
113 would authorize the Secretary to acquire, construct, operate
114 and maintain storage facilities for such fuel. However, the
115 bill does not address NRC licensing of Department of Energy,
116 DOE, storage facilities.

117 The Commission believes it already possesses legal author-
118 ity to license the storage of spent fuel in such facilities
119 because the NRC considers spent fuel to be high-level waste
120 for the purposes of Section 202[3] of the Energy Reorganiza-
121 tion Act of 1974, ERA. Explicit legislative confirmation of
122 this authority would be welcome by the Commission to avoid
123 any possibility of confusion on this point.

124 With regard to IRG recommendations, in June of 1978, the
125 Commission expressed the view that it was reasonably

126 confident that safe waste disposal will be available when
127 needed. In March of 1979, the Commission reaffirmed its
128 confidence but committed itself to reassessing its basis for
129 confidence as new data are developed and progress is made in
130 the Federal waste management program. The Commission is now
131 considering the form of a proceeding to review its basis for
132 confidence.

133 In the meantime, the Commission staff has reviewed the
134 Final Report of the President's Interagency Review Group on
135 Waste Management and has expressed explicit agreement with
136 the IRG's finding that: "Present scientific and technical
137 knowledge is adequate to identify potential repository sites
138 for further investigation. No scientific or technical
139 reason is known that would prevent identifying a site that
140 is suitable for a repository provided that the systems view
141 is utilized rigorously to evaluate the suitability of sites
142 and designs and in minimizing the influences of future human
143 activities."

144 It would appear prudent that several geologic environments
145 covering a variety of emplacement media should be examined
146 in some detail. Repository development should begin with a
147 number of geologic media and proceed to the further
148 development and use of those which prove to be suitable on
149 the basis of in-situ exploration and testing.

150 In addition, several waste forms should be developed and

151 characterized. This parallel development of sites and waste
152 forms should result in combinations which would provide the
153 required protection of the public.

154 The proposed licensing process, set out in the statement
155 of Commission Policy published for comment in November 1978,
156 is consistent with such step-wise development. Intermediate
157 Scale Facilities, ISF, could be employed as part of a
158 step-wise process of proceeding from R&D facilities to a
159 commitment to a full-scale repository.

160 As to state veto, you have asked whether a state should be
161 given the authority to veto an interim storage facility or
162 terminal repository sited within its borders. While
163 terminal repositories, because of the essentially unlimited
164 duration of their existence -- from a human viewpoint --
165 require special consideration, we do not believe that
166 interim storage facilities should be handled differently
167 from other fuel cycle facilities.

168 We do not believe that states should have authority to
169 veto or non-concur in the selection of an interim storage
170 facility. States may presently participate as interested
171 parties in hearings on the licensing of such installations.

172 In NUREG-0539, "Means for Improving State Participation in
173 the Siting, Licensing and Development of Federal Nuclear
174 Facilities," a report to the Congress, the Commission ad-
175 dressed the question of state concurrence in the following

176 manner:

177 "Finding: The Commission believes it appropriate to give
178 statutory recognition to the legitimate concerns of states
179 in which waste facilities may be located. Providing a state
180 veto would mean that a relatively small percentage of the
181 American people would be empowered to halt or seriously
182 impede the federal waste management program even if the
183 normal regulatory processes were to lead to the conclusion
184 that the wastes can be safely stored and disposed of."

185 Mr. Dingell. Mr. Hendrie, I observe there is a vote on
186 the floor. It relates to further consideration of H.R. 439
187 for the independent agencies appropriations bill for fiscal
188 year 1980. I have just got to vote on it.

189 Would you forgive me if I recess the committee for 10
190 minutes?

191 Mr. Hendrie. Mr. Chairman, I think I have some interest
192 in that proceeding. I will be glad to await your return.

193 Mr. Dingell. I did not figure you would be distressed if
194 I did that. It will take 10 or 15 minutes. If you will
195 wait until I get back.

196 Mr. Hendrie. Fine.

197 [Whereupon a brief recess was taken.]

198 Mr. Dingell. The subcommittee will come to order again.
199 Mr. Hendrie, the chair apologizes to you. You may be
200 interested to know the House has dissolved itself into a

201 committee of the whole for the purpose of considering HUD
202 and independent agencies for the fiscal year 1980.

203 I give you no assurance as to the outcome. Mr. Chairman,
204 we recognize you again.

205 Mr. Hendrie. Thank you, Mr. Chairman. I will pick up at
206 the bottom of page six.

207 "The Commission believes that legislation for improving
208 state participation in the federal waste management program
209 should provide additional recognition of the legitimate
210 concerns of the state along lines suggested in this report.
211 If provision for a state veto were made, that provision
212 should be carefully drafted to clarify the circumstances
213 under which the veto could be exercised.

214 "This would include requiring the state to exercise all
215 reasonable means to resolve its difficulties. If a state
216 concurrence or veto were authorized, it might come at the
217 time at which a Commission decision has been made to
218 authorize facility construction.

219 "Therefore, it would have the effect of suspending the
220 beginning of construction by DOE. We emphasize the need to
221 consider how issues identified by a state veto would be
222 resolved; we see merit in providing for a Congressional role
223 in this area."

224 Should provisions be made for state nonconcurrence, we
225 prefer, as indicated, the concept of a final point of con-

226 currence coming at a time when Commission decision has been
227 made to authorize facility construction. This decision to
228 authorize construction would be subject to the normal full
229 formal proceedings which NRC provides for and as provided in
230 federal law.

231 Mr. Chairman, I would note the prepared statement at this
232 point includes personal views by Commissioner Gilinsky and
233 Commissioner Bradford. I would refer you to the statement
234 for a full review of those views. I might say that at the
235 end of my prepared statement I would like to briefly
236 indicate to you my personal views on the matter.

237 Mr. Dingell. Fine. I think it is entirely appropriate
238 that both Commissioner Gilinsky and Commissioner Bradford
239 did submit their independent views. Without objection, they
240 will be inserted in the record. Mr. Chairman, we are happy
241 to recognize you for your views.

242 Mr. Hendrie. I will go ahead and complete my prepared
243 testimony and then go on to that matter, Mr. Chairman.

244 With regard to responsibility for waste management, H.R.
245 2586 would explicitly affirm federal ownership and operation
246 of a system for a long-term disposal of spent fuel generated
247 by foreign and domestic nuclear reactors. The Commission
248 agrees that ultimate disposal is a national problem which
249 must be solved primarily by the federal government.

250 This view is also shared by the Interagency Review Group

251 on Nuclear Waste Management, IRG. In its March 1979 report
252 to the President, the IRG proposed a plan for carefully and
253 expeditiously achieving ultimate waste disposal. The
254 Department of Energy has designed its Commercial Waste
255 Management program to implement the recommendations of the
256 IRG.

257 These developments are of fundamental importance to the
258 Commission because it is authorized by Section 202(3) of the
259 Energy Reorganization Act of 1974 to license DOE facilities
260 for the storage of commercially generated wastes.

261 H.R. 2586 would also assign to the federal government
262 responsibility for providing interim storage for spent fuel.

263 The Commission has not taken a position on whether interim
264 spent fuel storage facilities should be owned privately or
265 by the federal government. The Commission believes that it
266 can adequately analyze the health, safety and environmental
267 impacts of such facilities whether they are constructed by
268 the federal government or by private industry.

269 Although the Commission offers no opinion on who should be
270 responsible for providing facilities for the interim storage
271 of spent fuel, the Commission suggests that the following
272 factors should be considered. Before the President
273 indefinitely deferred reprocessing in October of 1976,
274 private utilities constructed nuclear generating plants
275 under the assumption that spent fuel would be reprocessed.

276 Consequently, these utilities constructed spent fuel
277 storage facilities having limited capacity. Since then,
278 several nuclear power plant operators have applied improved
279 technology to expand the capacity of existing storage
280 facilities.

281 However, even with these increases in capacity, spent fuel
282 pools will begin to run out of storage space by the mid
283 1980s. If additional storage capacity is not available by
284 that time, some nuclear plants will have to cease operation.

285 The result would be a loss of generating capacity which
286 could have national impact.

287 Of course, the prospect of power plant shutdowns might
288 also encourage private investors to construct additional
289 spent fuel storage capacity. Private industry is
290 technically capable of constructing away-from-reactor
291 storage facilities. The technology of such storage
292 facilities is well-developed and substantial experience has
293 been gained by the construction of smaller spent fuel pools
294 at reactor sites.

295 I would just like to note, as I said, that I will enter my
296 own personal view on the question of state vetoes for
297 nuclear waste facilities.

298 Mr. Dingell. That will be most helpful.

299 Mr. Handke. And this would deal with the permanent
300 disposal facilities, not with interim storage pools. Mr.

301 Chairman.

302 For permanent storage facilities I have come to the view
303 recently that while the state should have every opportunity
304 and should participate in the process of selection, reviewing
305 the design, the licensing proceedings and so on and their
306 difficulties, objections and interests should be fully
307 considered and resolved in the best technical fashion, it is
308 my view that ultimately a provision for federal preemption
309 of the construction decision may be necessary if one finds
310 that there simply is not state acceptance anywhere in the
311 land.

312 The criteria by which one would exercise that federal
313 preemption are not all that clear to me and clearly would
314 have to be carefully defined. I think ultimately a federal
315 pre-emption provision will be necessary.

316 [The full statement of Joseph M. Handrie follows:]

317

318 ***** Insert *****

319

320 Mr. Dingell. The committee thanks you for your helpful
321 comments. The chair will recognize my colleagues in the
322 order of appearance. The chair will recognize first the
323 gentleman from Illinois, Mr. Corcoran, for five minutes,
324 then the gentleman from Washington.

325 Mr. Corcoran. Thank you, Mr. Chairman.

326 Chairman Hendrie, we certainly welcome your attendance
327 here and will consider carefully your recommendations.

328 First of all, with regard to your comments on page two of
329 your testimony regarding the build-up of the spent fuel
330 assemblies and the need for adequate storage, you make the
331 point that most utilities have accomplished or have proposed
332 modifications which will provide sufficient storage for the
333 five and 10 years of additional operation.

334 With regard to those proposed modifications, what
335 assurances do we have at this point that those proposed
336 modifications will be approved by your agency and other
337 agencies that could be involved?

338 Mr. Hendrie. I cannot, of course, speak for other
339 agencies, Mr. Corcoran, but we are the primary licensing
340 agency in the federal government. The way in which these
341 things come to us is requests by a utility to modify its
342 license for a given facility to allow a new scheme of taking
343 the spent fuel elements in the pool which is already there.

344 Most plant operators have already applied and quite a
345 number have been already processed. The addition of more
346 spent fuel to a pool by the re-raking process is not one
347 that has any significant environmental effects. It is not a
348 safety problem. The technology is well established. I
349 think gener- ally a perfectly adequate case can be made in
350 all cases.

351 The one area that does raise a question is that there have
352 been court challenges to Commission decisions. I referred
353 to the recent decision of the D.C. Circuit in Minnesota
354 versus NRC and so on, which is now attached to our decision
355 to grant an amendment allowing re-raking, increase in
356 capacity, now attaching that decision to a determination by
357 the Commission that ultimate waste disposal or at least some
358 place to get the fuel out of that particular pool will be
359 available.

360 So, we have now to institute a general proceeding
361 examining the question of the Commission's level of
362 confidence that there will be some place to send the pool
363 some time in the future both in terms of immediately getting
364 it out of that reactor storage pool to some place else and
365 ultimately getting it permanently disposed of.

366 If adequate findings cannot be made in that general
367 proceeding, then that would prevent all further approval of
368 amendments to re-rake.

369 Mr. Corcoran. My concern is, given the build-up of the
370 spent fuel and the timetable by the mid 1980s where we will
371 see, as you indicated in your testimony, that there would be
372 the possibility of a cessation of operations in the case of
373 some power plants, that if this continued intervention,
374 challenge to your decisions and the challenge, for instance,
375 not only to the environmental impact of a proposed modifi-
376 cation of an existing on-site storage capacity or the
377 attempt by the utility to transport these spent fuel rods
378 within their system provides another possibility for delay,
379 how can we be assured by the mid 1980s of the approach which
380 I suspect you are recommending at this point in your
381 testimony, which is that we do not need away-from reactor
382 facilities but that we could be relatively confident that
383 because of the accomplished modifications and the proposed
384 modifications that there would be adequate storage to
385 provide for all of the spent fuel that would be becoming
386 available through 1985, for instance?

387 Mr. Hendrie. I would not want you to think that the
388 thrust of the Commission's testimony or my own personal
389 views are that means for storing spent fuel at away-from
390 reactor facilities are not needed. In my view they are.

391 All we are saying here is that for the next few years, and
392 probably reaching up until the early 1980s, maybe 1982 or
393 1983, that we believe that with increases in the storage

394 capacity in the pools of plants that there will be storage
395 space there.

396 As you get on past there, then there becomes an increasing
397 need for new construction for spent fuel storage. It is my
398 view that those facilities are needed and that we ought to
399 be moving ahead now or they will not be in place by the time
400 they are needed. It takes some years to develop one of
401 these projects and put it in operation.

402 The summer of 1979 is none too soon to get started and we
403 will unquestionably need it.

404 Mr. Corcoran. One last question I have relates to your
405 comments on page 11 regarding the possibility that private
406 investors might be encouraged to support additional spent
407 fuel storage capacity. This assumes, of course, that there
408 is no change regarding the federal government's decision on
409 reprocessing.

410 What would happen if in your view the federal government
411 in a year or two were to change its position on the question
412 of reprocessing? What would that do to incentives to
413 private investors to support a significant expansion of
414 interim storage capacity?

415 Mr. Hendrie. First of all, let me divide interim storage
416 capacity into what is going on now at individual reactor
417 sites in terms of making on the one hand and away-from
418 reactor or new construction for the purpose, on the other.

419 I think utilities would continue to do the reracking just
420 to provide themselves with the operating elbow room they
421 need so that they will not have to worry next summer about
422 beginning to run out of space or the year after. So, I
423 think that would go ahead.

424 As you suggest, a reconsideration of the reprocessing
425 decision would raise all kinds of questions and I am not
426 quite sure how all of that would come down.

427 One of the great difficulties, perhaps the greatest
428 difficulty that in my view has kept the industry itself from
429 moving ahead and forming several consortia to build storage
430 pools away-from reactor storage pools for all of them to put
431 excess spent fuel in has been a total uncertainty as to
432 where the federal government is going to go.

433 If they knew now that either the federal government is or
434 is not going to provide this interim storage capacity and is
435 or is not going to allow processing at some time in the
436 future, then I think their decisions could be made in a
437 reasonable way.

438 Lacking that knowledge, it is an essentially open game.
439 There is no way they can make a rational determination in my
440 view. So, I think these uncertainty matters are critical in
441 the decisionmaking processes.

442 Mr. Corcoran. According to your testimony, you have
443 pretty much agreed with the conclusions of the interagency

444 review group. Would you say that the data that your agency
445 has collected pretty well parallel the data of the
446 interagency review group with respect to the amount of spent
447 fuel that is accumulating?

448 Mr. Hendrie. I guess it must come pretty close to
449 paralleling it, Mr. Corcoran, because we are one of their
450 data sources, certainly not the only one. They drew from
451 industry sources. We also look to see what industry says
452 and make our own estimates and DOE makes its estimates and
453 all of these separate information sources sort of get
454 averaged together in the community of people who are
455 interested and knowledgeable in the subject.

456 I expect our views sort go in the same general direction
457 with minor differences from year to year and so on. One can
458 see a number of different tables and see different numbers
459 in them. If you go and study them, the reason there are
460 different numbers is for the most part the tables represent
461 somewhat different assumptions.

462 If you get the people who made them together and all agree
463 on a given set of assumptions, then I think most of us will
464 come pretty close to the same.

465 Mr. Corcoran. The related assumptions would be what you
466 were talking about earlier?

467 Mr. Hendrie. Just so.

468 Mr. Dingell. The time of the gentleman has expired.

469 The chair will recognize counsel for the purpose of asking
470 questions.

471 Mr. Ward. Chairman Hendrie, on page four of your prepared
472 statement you say NRC believes it already has the authority
473 to license the storage of spent fuel in DOE facilities
474 because the Commission considers spent fuel to be high level
475 waste for the purpose of Section 202(3) of the Energy
476 Reorganization Act. Is this a new policy?

477 Mr. Hendrie. No, we have taken this attitude ever since
478 the deferral of the reprocessing decision. One of the
479 reasons that it would be helpful to have explicit
480 confirmation of the point is that I do not know that our
481 interpretation of the Energy Reorganization Act is held
482 uniformly by all parties.

483 Obviously, any place people have a different opinion, we
484 may end up in court to thresh it out.

485 Mr. Ward. Presently the Morris facility is licensed under
486 10CFR, part 70, which is a source possession license rather
487 than an AFR facility. West Valley is licensed under 10CFR
488 as a product and utilization facility. If you have proposed
489 new regulations on 10CFR, part 72, if the government were to
490 buy these facilities and seek a license from you, under
491 which regulations could they be licensed?

492 Mr. Hendrie. If the intent of the operation in the
493 purchase of the facility was to store spent fuel in the

494 pools or to expand them and store more spent fuel. I think I
495 would look to licensing under the AFR regulations, presuming
496 that to have gone into place and be part of our regulations.

497 I think they may also for that purpose need a part 70
498 license to possess the special nuclear material.

499 Mr. Ward. They would have to then meet two criteria, one
500 of which would be new. I am wondering if you have any idea
501 as to whether these two existing facilities, indeed the
502 Barnwell facility, could meet these criteria?

503 Mr. Hendrie. This is Mr. William Dircks, who heads the
504 Office of Nuclear Material, Safety and Safeguards. I have
505 just got the revision of that two-license answer. So, we
506 might get that in the record and save my writing you a
507 letter.

508 Mr. Dingell. Let us do it the easy way.

509 Mr. Dircks. We regard part 72 as a possession license.
510 So, it would only be one license, part 72.

511 Mr. Ward. Do you know if the three existing facilities
512 under consideration could comply with the proposed regula-
513 tions? Are there any glaring problems?

514 Mr. Dircks. I would say at the outset we see no glaring
515 problems in reviewing those facilities for part 72 licenses.

516 Mr. Ward. I just want to be sure the government does not
517 buy it and find out it cannot license it.

518 Mr. Dingell. Excuse me. Do you want to comment on that?

519 That happens to be one of the chair's concerns. The govern-
520 ment buys the thing and then they cannot license it. Is
521 there a peril here that should trouble us?

522 Mr. Hendrie. It is not a great peril, Mr. Chairman. I
523 think it would be prudent, as one of the initial steps in
524 the government contemplation, if they indeed contemplate
525 that, if they just drop around and talk to Mr. Dircks and
526 his staff. I would think we could pretty rapidly sort out
527 whatever provisions the new licensing proceeding would be
528 apt to require and have that all pretty well in hand.

529 Mr. Dingell. Are you discussing here then a contract
530 which would be contingent on the licensing?

531 Mr. Hendrie. It had not occurred to me as a matter of
532 fact. I was just suggesting that presumably this would be
533 DOE. Nothing prevents them from coming over and saying,
534 "Take a look at this facility versus what you now think
535 ought to be in an away-from reactor spent fuel facility and
536 tell us what it needs, if anything."

537 Mr. Dingell. It would be rather curious if DOE entered
538 into a contract, money was paid on it, then they found out
539 that the most important single contingency, that is the
540 license, was not available. I do not think that you issued
541 the contract?

542 Mr. Hendrie. No, that was a DOE contract.

543 Mr. Dingell. I suspect DOE ought to be aware of the peril.

544 of this and we are trying to see to it that they are aware
545 of the peril of this and that they do not go getting
546 themselves into a position where on the one hand they issue
547 a contract, money is paid, obligations are undertaken, and
548 all of a sudden everybody wakes up the morning after and
549 finds out the contract is not any good because of the fact
550 that the license cannot be issued.

551 Would they be well served to commence a licensing pro-
552 ceeding at a time soon in order to clear away this
553 particular thicket?

554 Mr. Hendrie. I think the sooner they get started, the
555 sooner we get through and both settle whether there is any
556 question about the license and we would get there sooner. I
557 think sooner better than later on several counts.

558 Mr. Dingell. We have DOE witnesses in the room. The
559 thought occurs to me I might inquire on this particular
560 matter unless things get out of hand here in some fashion.

561 The chair recognizes counsel. Thank you, Mr. Hendrie.

562 Mr. Ward. If that is your opinion in the matter of the
563 DOE license, the Morris facility has presently applied for a
564 licensing extension under the existing provision. How would
565 you treat that application?

566 Mr. Hendrie. I suspect that we would look at sort of the
567 current level of provisions and see what might be reasonable
568 there?

569 Bill, would you comment?

570 Mr. Dircks. We are reviewing that facility^{agreed} the part 72
571 requirements. We are reviewing it in light of that although
572 we do not have the final rule in place yet. We are
573 reviewing it in the light of part 72. We do not see any
574 serious differences between the 70 and 72 requirements.

575 Mr. Ward. When will the 72 requirements be finalized?

576 Mr. Dircks. By the end of this year.

577 Mr. Dingell. The question occurs to me here at this
578 point. Mr. Chairman, the bill is silent on licensing or
579 approval by your agency. Am I to assume that the bill would
580 waive licensing or am I to assume that it would be DOE
581 policy that it should waive licensing or am I to assume you
582 are acquiescing in the fact that this silence is here?

583 Does this silence here create ambiguities that might cause
584 us further difficulties insofar as licensing is required
585 from your agency or whether DOE can simply under the
586 language of the legislation take the authority away from
587 you? Do you want to address yourself to those questions?

588 Mr. Hendrie. Of those options, Mr. Chairman, I think
589 ambiguity is the right question. We believe that we have
590 the authority under the Energy Reorganization Act. As was
591 discussed here, others could disagree.

592 I think it would be DOE's intent to come to us and ask for
593 a license but there could also be court challenges from

594 other parties either way.

595 Mr. Dingell. There is nothing in this statute waiving
596 your authority for licensing.

597 Mr. Hendrie. We do not read it that way. We would regard
598 the Energy Reorganization Act language as giving us the
599 authority but, as I say, it would be helpful to just have a
600 line or two that clarifies the matter so that we do not have
601 to settle it finally through a protracted judicial
602 proceeding.

603 Mr. Dingell. I think that is desirable. As a kindness to
604 us, would you, using your excellent counsel, submit a draft
605 on this?

606 Mr. Hendrie. Yes, we would be glad to.

607 Mr. Dingell. I specifically request you not submit that
608 to the Office of Management and Budget for prior clearance.
609 You can discuss it with DOE and we will request similar
610 service from them. If you want to get together with DOE
611 that is all right, but I want your views on this particular
612 matter.

613 Mr. Hendrie. We will send it directly to you, Mr. Chair-
614 man.

615 Mr. Dingell. Thank you.

616 [The information to be supplied follows:]

617

618 Insert *****

619

620 Mr. Dingell. Counsel?

621 Mr. Ward. You recently altered the rules on safeguarding
622 spent fuel shipments.

623 Mr. Hendrie. Yes.

624 Mr. Ward. The transportation issue has been one of the
625 major issues discussed and the shipments used to be exempt
626 from part 73. What added cost is this going to place upon
627 the shipments?628 Mr. Hendrie. I guess I do not know. Let me ask Mr.
629 Dircks to help us out.630 Mr. Dircks. Mr. Chairman, we have pulled it together and
631 we have discussed this with the shippers. It would increase
632 the per-mile cost, which was estimated at \$1.25 a mile for
633 moving the spent fuel, to \$2.50 a mile.

634 Mr. Hendrie. It doubles it.

635 Mr. Ward. So that would be a significant factor then in
636 figuring the cost advantages of centralized storage?637 Mr. Dircks. When you look at the overall cost of the
638 spent fuel, the per-mile figure did not figure that high in
639 the calculations.640 Mr. Ward. In a response to a series of questions from the
641 Interior Committee, the Committee stated economic cost may
642 be less for small reactor site pools which could use some of
643 the existing facilities of the parent facility for power.

644 water and waste processing. Have you made an estimate of
645 what the physical advantages of on-site storage would be?

646 Mr. Hendrie. In terms of cost?

647 Mr. Ward. Yes.

648 Mr. Hendrie. I seem to recall a number of around \$25
649 million to add the sort of size you would want for a single
650 unit at a reactor site. Presumably you would utilize a
651 number of processing systems, water clean-up, supply and so
652 on, that were already in the plant.

653 So, you would not need to duplicate these but you would
654 need to put in a pool and put a building over it and so on.
655 I am getting nods that indicate that \$25 million is about
656 the right figure.

657 Mr. Ward. For about how big?

658 Mr. Hendrie. About a 1400 metric ton. I guess the aim
659 would be to cover the operating lifetime of a single unit.

660 Mr. Ward. Do you know the estimate for a 5,000 metric ton
661 AFR facility?

662 Mr. Hendrie. I have seen numbers like \$200 million.

663 Mr. Ward. It would seem that there would be a sub-
664 stantial cost advantage to on-site expansion because you get
665 1400 metric tons for \$25 million and you get 5,000 metric
666 tons for \$200 million.

667 Mr. Hendrie. Yes. I must say I do not understand the
668 difference, Mr. Ward. It struck me too from those simple

669 numbers the cost per metric ton is highly in favor of
670 putting pools on site. I think it may be a more complex
671 question than just looking at those numbers, however.

672 Mr. Ward. What are the impediments that exist tht would
673 prohibit the expansion of on-site storage? I am talking of
674 physical expansion, not simple reracking.

675 Mr. Hendrie. I guess at the majority of sites I would
676 think there is not much of a physical or technical nature
677 connected to environmental impact or public safety.

678 It does not require very much space. It has to be tucked
679 in close to the existing facility anyway. It does not
680 require much ground space. There might be a few sites in
681 rather high-seismic requirement areas where the requirements
682 would be substantially greater in terms of structural
683 difficulty and need to be able to take a large earthquake.

684 I think at most sites you could probably do it all right
685 from a technical standpoint. The real impediments are
686 probably more concerned with the need to file an amendment
687 to the license to allow the additional pool to be
688 constructed and then to take the fuel. It turns out now
689 that any time you make an application like that your
690 expectation is that there will be a hearing under the
691 Commission's procedures and those can be fairly lengthy
692 proceedings.

693 Mr. Singell. If counsel will yield, I observe that the

694 use of the amendment of the original licensing procedure is
695 less cumbersome than to go through a whole new licensing
696 procedure on expansion of the storage pools; is that right?

697 Mr. Hendrie. I do not believe there is a great deal of
698 difference for amendment to a license. When we receive an
699 application for one we notice it and invite interested
700 parties to request hearing if they wish. As I say, in most
701 cases there will be request for a hearing. It is an
702 adjudicatory proceeding on a license by the Commission.

703 The result of the proceeding is subject to an appeals
704 board and in turn appeal to the Commission and finally
705 appeal to the Judicial System by any party who does not like
706 the outcome.

707 So, it is less than the original proceeding only in that
708 you are constructing a rather more limited objective, but
709 the formal procedural requirements are the same.

710 Mr. Dingell. Mr. Chairman, I have five minutes to make
711 this vote. So, I do have to go. The committee will stand
712 in recess. I will be back as quickly as I can.

713 [Whereupon, a brief recess was taken.]

714 Mr. Swift. The committee will resume. I recognize
715 counsel for questions.

716 Mr. Kays. In some of the old GE reactors you have the
717 problem of the elevated storage pools, above ground storage
718 pools. That is not in itself an impediment to on-site

719 expansion, is it?

720 Mr. Hendrie. It is not an impediment to reracking. Of
721 course, if you want to build additional pool capacity beyond
722 the reracking of the existing facility, you are not going to
723 build it up in the air along side of the reactor building.
724 You will dig it into the ground and it will be a separate
725 building and have its own facilities.

726 Mr. Ward. Now, as to the terminal part of the Adminis-
727 tration's proposal, where are you in terms of establishing
728 regulations to deal with the terminal disposal of waste?

729 Mr. Hendrie. I have just the man here who ought to answer
730 that question from the Commission's Office in charge of
731 precisely that venture, Mr. Ward. Bill?

732 Mr. Dircks. We have two sets of regulations coming out.
733 One is the general policy regulations. We are going through
734 the final stages of that and we hope to have that out by the
735 end of this year. We are also working on what we call the
736 technical criteria part of the regulations. We are looking
737 to get that out in the early part of next year.

738 Now, ^{the} that technical criteria we are going to put out ^{are} in
739 what we think is a broad bound^{ary} to begin with and then as we
740 get more technical data we are going to be becoming more
741 specific in narrowing our technical criteria down where we
742 get pretty specific at the end of the process.

743 At least by the beginning of next year we will have the

744 broad technical criteria out.

745 Mr. Ward. When will you be in a position to accept an
746 application?

747 Mr. Hendrie. I would think next year.

748 Mr. Dircks. Next year. A lot of it depends on how
749 broadly the Department of Energy is told to look at
750 different geologic media. If the decision is made to go
751 with essentially one or two media, ^{our} ~~out~~ technical criteria
752 are at such a point that we could review that now. If the
753 Department is told to move out and look at a number of
754 alternative media, it will take us a little more time to get
755 our criteria in place. But it ^{also} will take the Department a
756 little more time to find such different geologic media.

757 Mr. Ward. To some extent you are dependent on work being
758 done at DOE to establish certain regulatory criteria. How
759 is that proceeding?

760 Mr. Hendrie. We are certainly dependent on the Depart-
761 ment of Energy for the basic research and development
762 effort. They have something like \$800 or \$900 million and
763 we have about \$17 million in waste management. So, clearly
764 the great part of the technical bases for safe waste
765 management will be in the DOE development information.

766 Obviously, parts of that, perhaps all of it in some way or
767 other, feed into our establishing regulatory criteria. We
768 have some work of our own going on to keep track and to look

769 at special aspects from a regulatory side.

770 I think it is a reasonable configuration. I do not see
771 any difficulty with it.

772 Mr. Ward. You mentioned Minnesota versus NRC which could
773 create some problems. Do you have any idea what the
774 magnitude of the problem could be? It is greatly going to
775 influence the ability of these utilities to rerack or
776 expand.

777 Mr. Hendrie. As I read the decision -- and I say it that
778 way so that you can be forewarned that my view is not an
779 expert or definitive one, nor necessarily as yet at any rate
780 the agency view -- as I read the decision the court has
781 accepted the argument of the petitioners in the case saying,
782 yes, the NRC ought to go ahead and determine for itself that
783 it indeed has some reasonable level of confidence that the
784 waste will come out of these reactor pools before the
785 expiration of the license and go some place where it can be
786 safely stored and that we ought to consider that in the
787 context of these applications for reracking.

788 But I also read the court to say that we need not delay or
789 stop processing and going forward with hearings and de-
790 cisions on applications for reracking. That is, that this
791 confidence determination is one which the Commission can
792 make separately and separate from these specific
793 proceedings and that the specific proceedings need not await

794 the generic one.

795 On the other hand, I suspect if the Commission just sort
796 of sits like a lump and does not do anything by way of
797 moving toward a generic proceeding, putting it under way and
798 carrying it forward, then we will be vulnerable to further
799 challenge in court along the line that we are not carrying
800 out the remand that the District Circuit made to us and we
801 are likely to get a court command to stop those specific
802 proceedings until we do the generic proceeding.

803 I think if we move ahead, as I read the court decision, we
804 can keep on with processing the specific applications for
805 reracking.

806 Mr. Ward. How long does it take the Commission to pro-
807 cess an application for a transshipment?

808 Mr. Hendrie. For a transshipment? We have not had very
809 many, just a couple, and the times may vary so that you do
810 not really have very good statistics to take an average. I
811 would guess some months.

812 Bill, do you want to make a comment?

813 Mr. Dircks. As Chairman Hendrie pointed out, we do not
814 have very much experience. We have one case going on now
815 that is rather heavily contested. I just cannot give you an
816 estimate of what ^{time} this contested case might take. There are
817 a lot of issues involved, broader than just moving the fuel
818 from one plant to another plant.

819 Mr. Ward. Thank you.

820 Mr. Swift. Chairman Hendrie, the nuclear industry has
821 indicated that it is willing to pay for the cost of storage,
822 particularly permanent storage, but they want that in one
823 lump sum up front. What is it going to cost to permanently
824 store spent nuclear fuel? Do we know that? Is there any
825 way that that can be determined at this point in time?

826 Mr. Hendrie. You can certainly make estimates which are
827 based on what you foresee as an orderly progression of steps
828 and pricing out of each of those steps as best you can at
829 the present time. That has been done I guess both by
830 industry groups and by the Department of Energy.

831 I do not believe that NRC has made any attempts to do
832 that. The pricing side is a little bit apart from our main
833 responsibilities although I am interested in it, of course.

834 Mr. Swift. I assume it would be somewhat easier for
835 dry-fuel reactor storage projecting the cost simply because
836 that technology is much more solid. Would that be a fair
837 assumption?

838 Mr. Hendrie. The pool storage of spent fuel elements I
839 regard as an in-place technology. We certainly ought to be
840 able to estimate what those things are to build, operate and
841 do that fairly well.

842 I think the more speculative aspect is what will it
843 finally cost to develop a full-scale permanent repository

844 since we are far at this point from deciding what it will be
845 and what the waste form will be and all kinds of things.
846 Nevertheless, estimates have been made on the basis of
847 various assumptions.

848 Mr. Swift. Whatever estimates are made and whoever has
849 made them, it has to be somewhat problematical simply
850 because the decision has not been made on exactly how to do
851 it. In the letter to Senator Glenn from Commissioner
852 Bradford, he indicated in this statement and I wonder if you
853 would consider it a fair statement of the status of the
854 search for permanent storage: "The bulk of the summaries of
855 technical information that I have seen suggest a
856 generalized, though incomplete, consensus to the effect that
857 long-term disposal is technically possible."

858 That is qualified in many respects. Do you feel that is a
859 fair statement?

860 Mr. Hendrie. I think my own statement would probably be
861 somewhat more positive than that but along the same line. I
862 do not feel that there are "go"- "no go" questions which
863 remain with regard to the technology of safe permanent waste
864 disposal. There is still a good deal of research and
865 development to be done, to be sure, on particular media and
866 particular waste forms.

867 Mr. Swift. Would you agree with the Commission's state-
868 ment of June 1977 that it has "reasonable confidence that

869 waste can be and will in due course be disposed of safely?

870 Mr. Hendrie. Absolutely.

871 Mr. Swift. And with all the qualifications there?

872 Mr. Hendrie. Yes.

873 Mr. Swift. The chair recognizes counsel for the purpose
874 of asking questions.

875 Mr. Finnegan. Mr. Hendrie, on pages five and six of your
876 testimony you talk about the state veto issue. You have
877 indicated that "We do not believe the state should have
878 authority to veto or non-concur in the selection of an
879 interim storage facility. States may presently participate
880 as interested parties in hearings on the licensing of such
881 installations."

882 You did say if provisions for a state veto are made, pro-
883 visions should be carefully drafted to clarify the circum-
884 stances under which a veto could be exercised.

885 One of the witnesses yesterday, Assemblyman Angelo Oratio,
886 indicated that "Although our policy does not explicitly
887 mention it, I think I am safe in saying that those members
888 would accept" -- and this is members of his group -- "some
889 Congressional action to confine the issues on which states
890 could reject to those related to environmental protection,
891 public health and safety and fiscal and social impacts."

892 That is a pretty broad statement. Would you consider that
893 a circumstance under which the state could exercise a veto?

894 Mr. Hendrie. I guess those are certainly -- as you say
895 that is pretty broad phrasing. I suspect you could get most
896 possibly connected issues under one or another of those
897 headings.

898 Mr. Finnegan. Public health and safety states usually use
899 as a basis for various police powers.

900 Mr. Hendrie. Yes.

901 Mr. Finnegan. So, it would be a fairly broad and sweep-
902 ing area under which they could exercise a veto.

903 Mr. Hendrie. Yes.

904 Mr. Finnegan. If you provided that to the states, gave
905 that kind of authority, is it likely you would ever get an
906 AFR approved?

907 Mr. Hendrie. My personal view is that if you provide a
908 state veto that the state officers will find themselves
909 driven to use it.

910 Mr. Finnegan. The result then would be that there would
911 be veto ---

912 Mr. Hendrie. Fifty vetoes.

913 Mr. Finnegan. And that would defer the matter to the
914 Congress.

915 Mr. Hendrie. I would hope that one could eventually build
916 into legislation for permanent waste disposal facilities
917 criteria that would not require us to go all the way down
918 the line and produce 50 state vetoes before the federal

919 government would decide that it is in fact a federal problem
920 and a matter of national interest and appropriate for
921 federal preemption.

922 Mr. Finnegan. How about for AFRs?

923 Mr. Hendrie. For AFRs, I do not think there should be a
924 veto power in the states at all, no more than there is for
925 power plants or fuel cycle plants. AFRs as a class of major
926 nuclear facilities are pretty innocuous things. It would
927 make to me no sense to provide for state vetoes of AFRs and
928 not speak to power plants and the other kinds of facilities
929 that are already there and which are not subject to state
930 vetoes.

931 Mr. Finnegan. Would you agree that the states though
932 should participate in the selection of the AFR sites?

933 Mr. Hendrie. I think it is very important that the states
934 participate in a pretty full manner. I think it is very
935 important that state concerns be treated with great care and
936 treated fully at all stages along the line. My own view is
937 that that kind of consideration from a siting, design and
938 operating standard point ought really to remove all of the
939 substantial and legitimate concerns.

940 Mr. Finnegan. And that would take place probably before
941 any actual licensing by the Commission, assuming there is a
942 licensing of the AFR. Would it not?

943 Mr. Hendrie. It would occur in the planning stages and as

944 the licensing review went along and actually in the hearings
945 on the licensing itself.

946 Mr. Finnegan. But the selection processes of the site
947 itself probably would take place before there is any request
948 for licensing.

949 Mr. Hendrie. Yes.

950 Mr. Finnegan. Isn't it in the selection of the site that
951 the state should really participate?

952 Mr. Hendrie. Yes, I think that would be very helpful if
953 they did.

954 Mr. Finnegan. Thank you, Mr. Chairman.

955 Mr. Dingell. Minority counsel.

956 Mr. Blenstock. Thank you, Mr. Chairman.

957 Dr. Hendrie, are the utilities now facing increasing
958 delays in having amendments to the license approved for
959 on-site expansion?

960 Mr. Hendrie. I think there has been a substantial
961 escalation in the level of contention over these reracking
962 amendments that are filed with us and that, in turn, means
963 that the hearings on those amendments are progressively
964 longer and more difficult and there is more likelihood of
965 appeal up the line to the appeals board, the Commission and
966 actually court challenge even following that in each of
967 these cases, as a general proposition. So, they are
968 accumulating out in my view.

969 Mr. Bienstock. Later this morning we will hear testimony
970 from the General Accounting Office to the effect that we
971 should look to the utilities for expanding on-site capacity
972 as opposed to constructing and operating a federal interim
973 sort of facility. Could I have your personal view on that?

974 Mr. Hendrie. My personal view is that there is enough
975 uncertainty in the whole process so that leaving it to
976 private industry to pick up the challenge and to provide the
977 facilities is asking for more than a human organization will
978 provide.

979 It is my personal view that in view of that uncertainty it
980 is very desirable to go forward with a federal interim spent
981 fuel storage plan of the kind in H.R. 2586. There are some
982 other bills that have more or less similar proposals in
983 them.

984 It seems to me a way which we can in fact act on at the
985 federal level in order to move the waste disposal issue
986 forward in a reasonable way, to take at least this step for
987 the interim spent fuel problem.

988 Mr. Bienstock. Thank you, Dr. Hendrie. Thank you, Mr.
989 Chairman. That is all.

990 Mr. Dingell. Mr. Chairman, the committee thanks you for
991 your kindness to us. We appreciate your courtesy. I am
992 sure the drafting that we requested earlier will be
993 forthcoming.

994 Mr. Hendrie. Thank you, Mr. Chairman.

995 Mr. Dingell. We are grateful to you and your associate.

996 Rather than to initiate the testimony of our next witness,
997 the chair is going to go over to the floor to vote. Counsel
998 will see to it that when Mr. Swift comes back he reconvenes
999 the hearing. The committee will stand in recess briefly
1000 while the chair goes to vote.

1001 [Whereupon, a brief recess was taken.]

1002 Mr. Swift. The subcommittee will resume. We welcome Mr.
1003 J. Dexter Peach, Director of Energy and Minerals Division of
1004 the U.S. General Accounting Office.

1005 Welcome, Mr. Peach, to the committee. If you will
1006 identify yourself for the record and those people who are
1007 with you.

1008 STATEMENT OF J. DEXTER PEACH, DIRECTOR OF THE ENERGY AND
1009 MINERALS DIVISION, U.S. GENERAL ACCOUNTING OFFICE;
1010 ACCOMPANIED BY JAMES HOWARD, ASSISTANT DIRECTOR; AND JAMES
1011 HATCHER

1012 Mr. Peach. Thank you, Mr. Chairman. I am J. Dexter
1013 Peach, Director of the Energy and Minerals Division, U.S.
1014 General Accounting Office. I have with me today on my left,
1015 Mr. James Howard, who is Assistant Director in Charge of our
1016 nuclear work and, on my right, Mr. James Hatcher, who is the
1017 person who had the principal responsibility for the report
1018 that is issued to the Congress today, prepared at the