

WALLACE L. TAYLOR

ATTORNEY AT LAW

4403 1ST AVE. S.E., SUITE 402

CEDAR RAPIDS, IOWA 52402

e-mail: wtaylorlaw@aol.com

Phone 319-366-2428

Fax 319-366-3886

July 26, 2018

Ms. May Ma
Office of Administration
Mail Stop TWFN-7-A60M
U.S. Nuclear Regulatory Commission
Washington, DC 2055-0001

Re: Docket No. 72-1051; NRC-2018-0055

Dear Ms. Ma:

Holtec International (Holtec) proposes to construct a consolidated "interim" storage (CIS) facility in Lea County, New Mexico. The Nuclear Regulatory Commission (NRC) has given notice that it will prepare an environmental impact statement (EIS) for the CIS project. The following are Sierra Club's comments on the proper scope of the EIS.

Sierra Club is the nation's largest grassroots environmental organization with over 700,000 members. Sierra Club supports sustainable energy alternatives (renewable energy and energy efficiency) that do not harm the environment. Sierra Club opposes nuclear power because its fuel cycle from uranium mining to spent radioactive fuel poses grave dangers to public health and the environment. In addition, reliance on nuclear power unjustifiably delays beneficial transition to clean and renewable energy sources.

The storage and disposal of spent radioactive fuel from nuclear reactors is a problem that has no good solution. Sierra Club believes that all alternatives to CIS should be evaluated and seriously considered. CIS poses unnecessary dangers and risks that must be avoided.

Issue 1

SUNSI Review Complete

Template = ADM-013

E-RIDS=ADM-03

ADD= Antoinette Walker-Smith, Jill
Caverly (JSC1)

COMMENT (228)

PUBLICATION DATE: 3/30/2018

CITATION # 83 FR 13802

The Holtec environmental report, in attempting to describe the purpose and need for this project, claims that CIS is safer and more secure than storing the waste at the reactor site. However, the environmental report cites no evidence or data to support this assertion. An agency cannot rely on self-serving statements, especially ones with no supporting data, from the prime beneficiary of the project.

An environmental report (ER) supporting a license application must contain a statement of the purposes of the proposed action. 10 C.F.R. § 51.45(b). In its statement of purpose and need, Holtec contends that the CIS proposed by Holtec would be safer and more secure than storing the waste at a reactor site. ER at 1.2. However, the ER provides absolutely no data or evidence to support that statement of enhanced safety. The NRC cannot blindly accept the unsupported statements of the license applicant.

NRC Guidance, Environmental Review Guidance for Licensing Actions Associated With NMSS Programs, NUREG-1748, states:

The applicant/licensee should explain why the proposed action is needed. This section of the ER describes the underlying need for the proposed action and should not be written merely as a justification of the proposed action, nor to alter the choice of alternatives.

Id. at § 6.1.1.

The statement in the ER that simply makes a conclusory statement that storage at the Holtec site would be safer than storage at the reactor site does not comply with the NRC guidance quoted above.

The purpose and need statement under the National Environmental Policy Act (NEPA) is important because the purpose and need statement "necessarily dictates the range of 'reasonable' alternatives." Carmel-by-the-Sea v. U.S. Dep't. of Transp., 123 F.3d 1142 (9th Cir. 1997). The definition of purpose and need must be reasonable. Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190 (D.C. Cir. 1991). There is no way to know if the statement of purpose and need is reasonable unless it is supported by data and evidence.

Furthermore, the agency must not accept out of hand the applicant's statement of purpose and need. In ELPC v. NRC,

470 F.3d 676, 683 (7th Cir. 2006), quoting Simmons v. Corps of Engineers, 120 F.3d 664, 666 (7th Cir. 1997), the court said:

We have held that blindly adopting the applicant's goals is a "losing proposition" because it does not allow for the full consideration of alternatives required by NEPA. NEPA requires an agency to "exercise a degree of skepticism in dealing with self-serving statements from a prime beneficiary of the project" and to look at the general goal of the project rather than only those alternatives by which a particular applicant can reach its own specific goals.

The ER and subsequent EIS must examine the relative safety of HOSS at reactor sites in order to substantiate the purpose and need for the Holtec project. HOSS has been described as follows:

An array of vertical-axis dry-storage modules at a center-to-center spacing of perhaps 25 meters. Each module would be on a concrete pad slightly above ground level, and would be surrounded by a concentric tube surmounted by a cap, both being made of steel and concrete. This tube would be backed up by a conical mound made of earth, gravel and rocks. Further structural support would be provided by triangular panels within the mound, buttressing the tube. The various structural components would be tied together with steel rods. Air channels would be provided, to allow cooling of the dry-storage module. These channels would be inclined, to prevent pooling of jet fuel, and would be configured to preclude line-of-sight access to the dry-storage module.

Dr. Gordon Thompson, Robust Storage of Spent Nuclear Fuel: A Neglected Issue of Homeland Security (2003), p. 64. Dr. Thompson's report documents the benefits of HOSS.

In addition, Dr. Thompson explains why an away-from-reactor storage site would be less safe than on-site storage:

However, three factors affect the overall risk of interim storage. First, shipment to an away-from-reactor ISFSI would increase the overall transport risk, because fuel would be shipped twice, first from the reactor site to the ISFSI, and then from the ISFSI

to the ultimate repository. Second, an away-from-reactor ISFSI would hold a comparatively large inventory of spent fuel, creating a potentially attractive target for an enemy. Third, there is a risk that a large, away-from-reactor ISFSI would become, by default, a permanent repository, despite having no long-term containment capability. These three factors must be considered in minimizing the overall risk of interim storage.

Id. at 59.

The EIS must therefore examine whether this CIS project is safer and more secure than properly storing the waste at the reactor site.

Issue 2

The statement in the ER that CIS is safer and more secure than storage at a reactor site contradicts the NRC's Continued Storage Rule, which concludes that spent radioactive fuel can be safely stored at a reactor site indefinitely.

The Continued Storage Rule, 10 C.F.R. § 51.23, incorporates the findings contained in an EIS, NUREG-2157. In NUREG-2157, the NRC concluded that the environmental impacts of storage of spent fuels at the reactor site for an indefinite period of time were almost uniformly small. If radioactive spent fuel can be stored at a reactor site as concluded by the NRC in NUREG-2157, there is no need to risk the transportation and storage of the waste at a CIS site as proposed by Holtec. Therefore, Holtec, contrary to NEPA, has not established a purpose and need for the CIS project.

As discussed in the previous section, Holtec alleges that storage of radioactive waste is safer and more secure at a CIS than at a reactor site. ER at 1.2. However, the NRC's Continued Storage Rule, 10 C.F.R. § 51.23, incorporates an EIS, NUREG-2157, that concluded that storage at a reactor site for an indefinite period would generally result in only small environmental impacts. NUREG-2157, p. 4-97 - 4-98.

Clearly, if spent fuel can be safely stored at the reactor site indefinitely, there is no purpose and need for the CIS proposed by Holtec. Moreover, there are increased risks from the CIS facility due to the risks of transporting the waste

to the CIS site and the increased risk of so much waste being stored in one place.

Therefore, The EIS must examine the purpose and need for the Holtec project in light of the conclusions of the Continued Storage Rule.

Issue 3

Operation of the CIS site as proposed by Holtec would necessitate the transportation of the radioactive waste from reactor sites to the CIS facility. Transportation from the reactors to the CIS site carries substantial risks. These risks must be evaluated in the EIS.

10 C.F.R. § 72.108 states that a nuclear waste storage facility must be evaluated with respect to the potential impact on the environment of the transportation of the radioactive waste. The containers destined for the Holtec CIS facility will be transported from various reactors around the country to the Holtec site. There is a risk of radiation being emitted from the containers during shipment. The ER must address the environmental impacts of these risks. The ER, 4.9, as submitted, does not address these risks.

In November 2010, the American Public Health Association (APHA) called spent fuel transportation "a national public health threat that is largely preventable." American Public Health Association, Intrastate and Interstate Transportation of Spent Nuclear Fuel is a Public Health Risk, November 9, 2010. APHA advocated for long-term fuel storage at reactors until a permanent repository is developed. In reviewing the APHA report, Amy Hagopian, a professor of global health at the University of Washington said, "The potential hazards and risks are huge, so minimizing transport makes sense. It just takes one accident, and then everyone will be pointing fingers and asking how we got to this point." Jennifer Weeks, Managing Nuclear Waste, CQ Researcher, January 28, 2011.

A report by Matthew Lamb and Marvin Resnikoff identified the consequences of a severe rail accident involving shipments of radioactive waste. Matthew Lamb and Marvin Resnikoff, Radiological Consequences of Severe Rail Accident Involving

Spent Nuclear Fuel Shipments to Yucca Mountain: Hypothetical Baltimore Rail Tunnel Fire Involving SNF, September, 2001.

That study was based on the circumstances of a fire that occurred on a freight train traveling through Baltimore. The study calculates what the impacts would be if such an incident occurred on a train carrying radioactive waste.

The report calculates the radiation exposure data if only one spent fuel cask is on the train as shown in the following table:

	Exposure to Baltimore Residents
Affected Population, 1990 (2000)	390,388 (345,493)
Area With Acute Dose of at Least 10 mrem	11.0 km ²
Max. Downwind Distance of 10 mrem acute dose plume	6.8 km
Area With Acute Dose of at Least 1 mrem	173 km ²
Max. Downwind Distance of 1 Mrem acute dose plume	38.7 km
Acute Population Dose, 1990 (2000) [person-rem]	17,509 (15,495)
Range of Estimated Excess Latent Cancer Fatalities from Acute Dose, 1990 (2000)	9-56 (8-50)
1-Year Population Dose, 1990 (2000) [person-rem]	495,498 (438,516)
Range of Estimated Latent Cancer Fatalities from 1-year Dose, 1990 [person-rem]	248-1,586 (219-1,403)
50-year Population Dose, 1990	9,944,974 (8,801,302)

(2000) [person-rem]	
Range of Estimated Latent Cancer Fatalities from 50-year Dose	4,972-31,824 (4,401-28,164)

The report also calculated the economic consequences for decontamination and cleanup from a train fire carrying radioactive waste as shown in the following table:

Area heavily contaminated (km ²)	9.9
Area moderately contaminated (km ²)	10
Area lightly contaminated (km ²)	62.4
Cost/km ² , heavy contamination	\$394,604,748
Cost/km ² , moderate contamination	\$182,592,165
Cost/km ² , light contamination	\$128,263,609
Total Cleanup Costs	\$13.7 billion

In discussing the radiological impacts of transportation of the radioactive waste to the proposed CIS, the ER at 4.9.4 relies on several NRC documents. Two of those documents, Generic Environmental Impact Statement of Continued Storage of Spent Nuclear Fuel (NUREG-2157), and Final Environmental Impact Statement for ISFSI in Tooele County, Utah (NUREG-1714), examine only local transportation impacts in and near the site of the waste. Therefore, those documents are completely irrelevant to determining the risks of cross country transportation and cannot be relied upon.

Pursuant to 10 C.F.R. § 72.108, the EIS must discuss the risks and costs of transportation of the radioactive waste to the Holtec site.

Issue 4

The ER states that waste would be stored at the CIS facility for up to 120 years until a permanent repository is found. The ER and the subsequent EIS must address the purpose and need and the environmental impacts if a permanent repository is not found, and the Holtec facility becomes a de facto permanent repository.

The ER states that radioactive waste would be stored at the CIS facility for up to 120 years until a permanent repository is found. ER 1.0. There is no assurance, however, that a permanent repository will ever be found. That was the basis for the decision of the Court of Appeals in New York v. NRC, 681 F.3d 471 (D.C. Cir. 2012). In that case, the court held that the NRC, in preparing an EIS for the storage of spent radioactive fuel, must address the alternative of a permanent repository never being developed. That same analysis applies to this case. In other words, will the Holtec CIS facility become a permanent repository without the protections of a permanent repository?

The Holtec facility is designated as an interim storage facility and is designed as such. It is not designed to be a permanent repository. The DOE, in a Record of Decision approving an EIS for the management of radioactive waste (46 FR 26677; May 14, 1981), concluded that a mined geologic repository was necessary to adequately contain the radioactive waste. Therefore, the non-geologic, unprotected storage of the containers as proposed for the Holtec facility would not satisfy the requirements for a permanent repository.

Pursuant to 10 C.F.R. § 51.45 an ER must discuss, inter alia, the impact of the proposed action and "appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." Likewise, "an agency must look at both the probabilities of potentially harmful events and the consequences if those events come to pass." New York v. NRC, 681 F.3d 471, 478 (D.C. Cir. 2012). That requirement was the basis on which the court in New York v. NRC held that the agency had to consider the possibility that a permanent repository would never be found.

The analysis the court used in New York applies equally to this case. The likelihood that a permanent repository will

be found is no closer to reality now than it was when New York was decided.

Issue 5

An ER is required to discuss alternatives to the proposed action. Pursuant to NEPA, this includes an examination of the no-action alternative. The discussion of the no-action alternative in the Holtec ER is deficient because it does not discuss safer storage methods at the reactor sites, such as HOSS, nor does it acknowledge the NRC's Continued Storage Rule that concludes that waste can be safely stored at the reactor site indefinitely. Furthermore, the ER states that the no-action alternative is a reasonable alternative that would satisfy the purpose and need for the project.

The ER, and eventually the EIS prepared by NRC, must examine all reasonable alternatives, including the no-action alternative. This requirement is meaningless unless the no-action alternative is thoroughly and objectively evaluated. Only then can the proposed action be properly evaluated.

The ER discusses the no-action alternative in Section 2.1. That discussion states that if the Holtec proposal is not licensed, the spent fuel will be stored at the reactor sites until, if ever, a permanent repository is developed. There is absolutely no discussion about the safety aspects of keeping the waste at the reactor sites. There is absolutely no discussion of HOSS or the NRC's Continued Storage Rule, as discussed previously.

The importance of an adequate discussion of alternatives is highlighted by the statement in the NEPA regulations that the alternatives analysis is the "heart of the environmental impact statement." 40 C.F.R. § 1502.14. NEPA demands that the environmental review "rigorously explore and objectively evaluate all reasonable alternatives." 40 C.F.R. § 14(a).

NEPA regulations require a discussion of a no-action alternative. 40 C.F.R. § 1502.14(d). This discussion would be included in the "substantial treatment of each alternative" required to be considered in an EIS. 40 C.F.R. § 1502.14(b); see also, Southeast Alaska Conservation Council v. FHWA, 649 F.3d 1050 (9th Cir. 2011). In other words, the no-action alternative cannot just be blandly dismissed with unsupported statements. As noted above in support of Issue 1, the agency must not accept out of hand the applicant's statement of purpose and need. ELPC v. NRC,

470 F.3d 676, 683 (7th Cir. 2006), and then use that statement of purpose and need to summarily reject the no action alternative.

The section of the ER regarding the no-action alternative, 2.1, simply says that no action would mean that the waste would stay at the reactor site, subject to safety regulations. But there is no discussion of the relative benefits and costs of leaving the waste at the reactor site compared to the benefits and costs of sending waste from many reactors to the Holtec site. It is the comparison of the alternatives, including the no-action alternative, that is required and that is absent in the ER in this case.

A thorough discussion of the no action alternative is especially important in this case since the ER, 1.2, states that the no action alternative is a reasonable alternative that would satisfy the purpose and need for the project.

The analysis of the no-action alternative must include a discussion of the NRC's Continued Storage Rule that concludes that spent fuel can remain at the reactor site indefinitely and the implementation of HOSS at the reactor site.

Based on the foregoing, the discussion of the no-action alternative in the ER is deficient and the EIS must present an adequate discussion of this issue.

Issue 6

Because the canisters of radioactive spent fuel will be stored below the surface of the land and because there is karst geology in the area of the proposed Holtec site, the EIS must thoroughly examine the possible impact of the project on groundwater.

The ER, 3.5.2, discusses the groundwater resources in the project area. The ER dismisses any adverse impact on the groundwater from the proposed project because the water is not potable. But if the water becomes radioactive from a release from the CIS, the water will become dangerous, whether or not it is potable.

The EIS must examine the impact of a release of radioactive material into the groundwater at the Holtec site.

Issue 7

The ER and the subsequent EIS must evaluate the potential for earthquakes at the Holtec site and the environmental impact of earthquakes. Likewise, the Safety Analysis Report (SAR) must adequately evaluate the earthquake potential of the proposed site.

Drilling for oil and natural gas has increased significantly in and around the site of Holtec's proposed CIS facility in recent years. A map showing the intense drilling in the area is attached. This drilling activity makes the underground area unstable and induces earthquakes. A recent study by Stanford University researchers has documented the existence of prior earthquakes in southeast New Mexico, and more importantly, the existence of numerous faults in the area in and around the proposed Holtec site. Snee and Zoback, State of Stress in the Permian Basin, Texas and New Mexico: Implications for Induced Seismicity (2018). The fault map is attached.

The potential for earthquakes would be an aspect of the environment affected and the environmental impacts of the project that must be included in the EIS, pursuant to 10 C.F.R. § 51.45.

Pursuant to 10 C.F.R. § 51.45 the EIS must contain a description of the environment affected and the impact of the proposed project on the environment. The ER, 3.3.2, essentially dismisses the likelihood of earthquakes in the area and does not mention any environmental impacts from earthquakes. However, as shown by the increase in oil and gas drilling in the area and the Stanford report, the earthquake potential in the area is significant.

10 C.F.R. § 72.103(f)(1) requires that the SAR contain an adequate analysis of the earthquake potential of the area in and around the proposed Holtec site. The SAR, in turn, informs the preparation of the EIS. The SAR submitted by Holtec does not comply with § 103(f)(1). The SAR, 2.6, discusses the geology and seismology of the area. But the earthquake information presented in the SAR is historical data that does not take into account the recent increase in

drilling for oil and natural gas in the area that crates induced earthquakes.

10 C.F.R. § 72.103(b) requires that in areas of known potential seismic activity east of the Rocky Mountain Front, seismicity must be evaluated using designated techniques. Those techniques are specified in § 72.103(f), as:

(1). . . The geological, seismological, and engineering characteristics of a site and its environs must be investigated in sufficient scope and detail to permit an adequate evaluation of the proposed site, to provide sufficient information to support evaluations performed to arrive at estimates of the DE [design earthquake ground motion], and to permit adequate engineering solutions to actual or potential geologic and seismic effects at the proposed site.

(2). . . The geologic and seismic factors considered for design must include a determination of the DE for the site, the potential for surface tectonic and nontectonic deformations, the design bases for seismically induced floods and water waves, and other design conditions as stated in paragraph (f)(2)(iv) of this section.

- (i) Determination of the Design Earthquake Ground Motion (DE).
- (ii) Determination of the potential for surface tectonic and nontectonic deformations.
- (iii) Determination of design bases for seismically induced floods and water waves.
- (iv) Determinations of siting factors for other design conditions.

Based on the foregoing, the EIS must examine the likelihood and the impacts of earthquakes induced by the oil and natural gas drilling in the area.

Issue 8

The dunes sagebrush lizard, a/k/a sand dune lizard, is an endangered species pursuant to New Mexico state law and

regulation. The lizard has a limited range and is specifically adapted to sand dune areas with shinnery oak. The site of the Holtec project is within the lizard's habitat range. The ER submitted by Holtec claims that the lizard is not present in the area of the Holtec site, but that assertion is contrary to the scientific evidence. The ER and the subsequent EIS must evaluate the impact of the Holtec project on the dunes sagebrush lizard and its habitat.

10 C.F.R. § 51.45 requires that an environmental report must contain a discussion of the environment affected by the proposed project and the environmental impacts of the project. This includes a discussion of the various species present and their habitat. The NRC's Environmental Review Guidance for Licensing Actions Associated With NMSS Programs (NUREG-1748), 5.3.5, also directs that the ER must discuss the affected environment and the impacts on the environment, including impacts to important species and their habitats.

The Holtec site is within the habitat range of the dunes sagebrush lizard, but the ER, 3.4.3, 4.4.3, 4.4.4, makes no mention of the impact of the project on the lizard or its habitat. This is a violation of NRC regulations and guidance as discussed above.

The ER, 3.4.3.1, refers to a 2007 ELEA survey that allegedly found no reptiles in the area of the Holtec site. That section also refers to a 2016 survey, ER, App. B, that found no reptiles in the area.

It is not entirely clear from the report, but it appears that the 2016 survey was conducted on one day and, with respect to animals, it was based on casual observation, not a detailed survey. That is not a valid biological assessment. It should be axiomatic that an endangered species will not be immediately observed because there are so few individuals. That is why it is endangered.

Furthermore, the 2016 survey was conducted in October, a time of year when the lizard, a cold-blooded creature, is hibernating. So the 2016 survey is not a credible basis for concluding that the dunes sagebrush lizard is not present at the Holtec site.

The 2007 ELEA survey should also be viewed with skepticism. First of all, ELEA paid for this survey. ELEA is the entity that for years has promoted some sort of nuclear project at the Holtec site. There is no indication as to what professional entity prepared the report or conducted the survey. ELEA is simply a consortium of local governments. It does not have the expertise to conduct a survey as set forth in the report.

A comparison of the 2007 ELEA report and the 2016 survey generates further skepticism. The 2007 report, 2.6.1.1, lists the sand dune lizard as likely to be present at the site and the vicinity. And this is a report primarily relied upon in the ER to contend that the dunes sagebrush lizard is not present. But the ER claims that the lizard is not present at the Holtec site, simply because it was not seen in the 2007 survey or the 2016 survey. However, as noted previously, the 2016 survey was conducted on one day at a time of year when the lizard would be hibernating. And, as admitted in the 2007 survey report, 2.6.1.1, no reptiles were observed due to the season.

It is clear, therefore, that neither the 2007 nor the 2016 survey, on which the ER relies to contend that the dunes sagebrush lizard is not present at the Holtec site, justify that contention. Furthermore, the attached maps show that the Holtec site is likely habitat for the dunes sagebrush lizard. Based on the foregoing, the NRC must reject the ER submitted by Holtec as it relates to the dunes sagebrush lizard.

In addition, the NRC must conduct an independent, scientifically valid survey for plants and animals in the area of the Holtec site in preparation of the EIS.

Conclusion

The ER submitted by Holtec is inadequate. It omits significant information. It misstates or misconstrues information. The NRC generally uses the ER as the basis for preparing the EIS. It is clear in this case, however, that the NRC must undertake its own independent investigation and

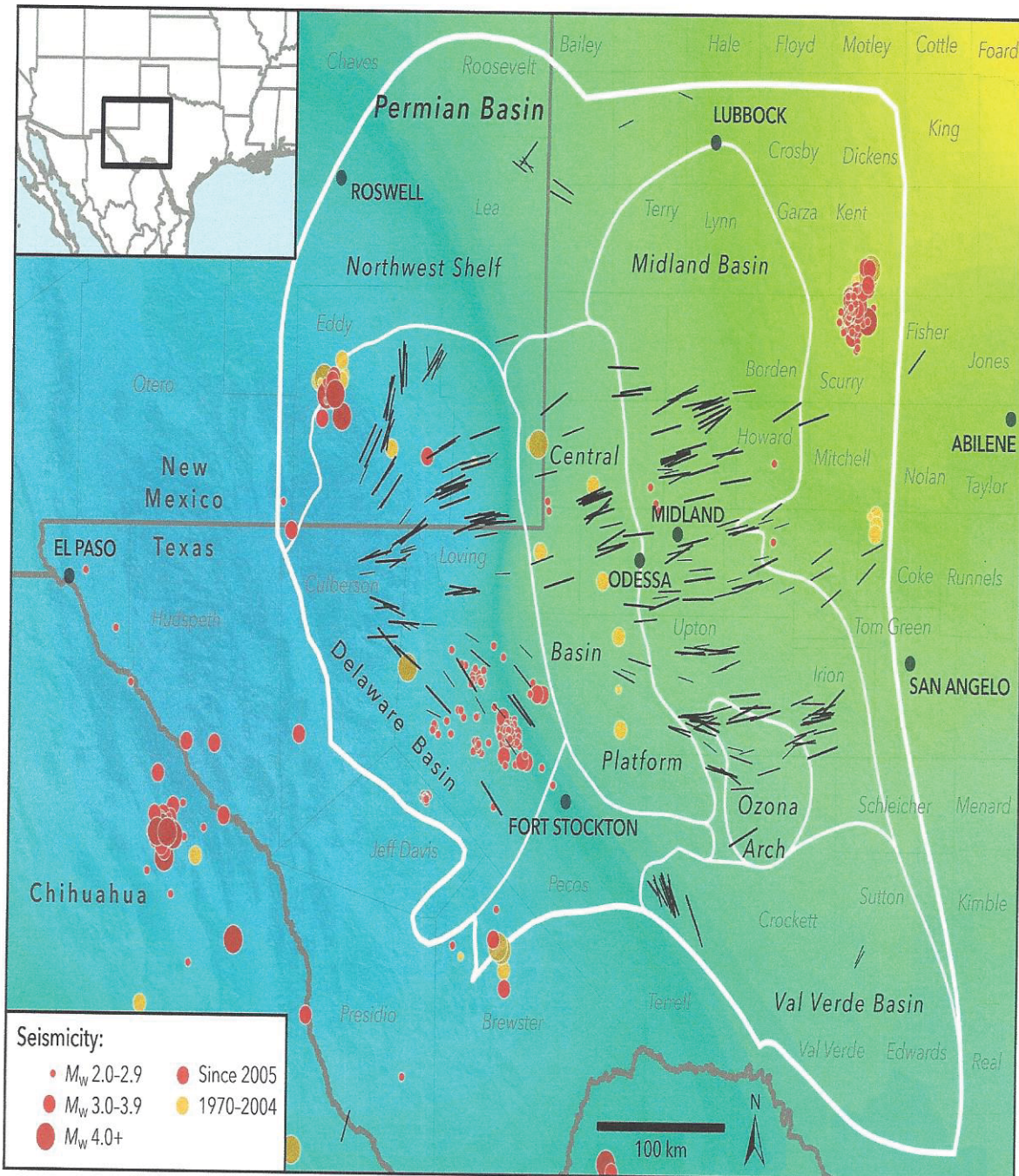
analysis in preparing the EIS and must do a thorough job in carrying out the requirements of NEPA.

Thank you for allowing us to submit these scoping comments.

Respectfully Submitted,

/s/ *Wallace L. Taylor*

Wallace L. Taylor



Details Legend

Oil & Gas wells (4-20-2017)



Counties



Shale Plays



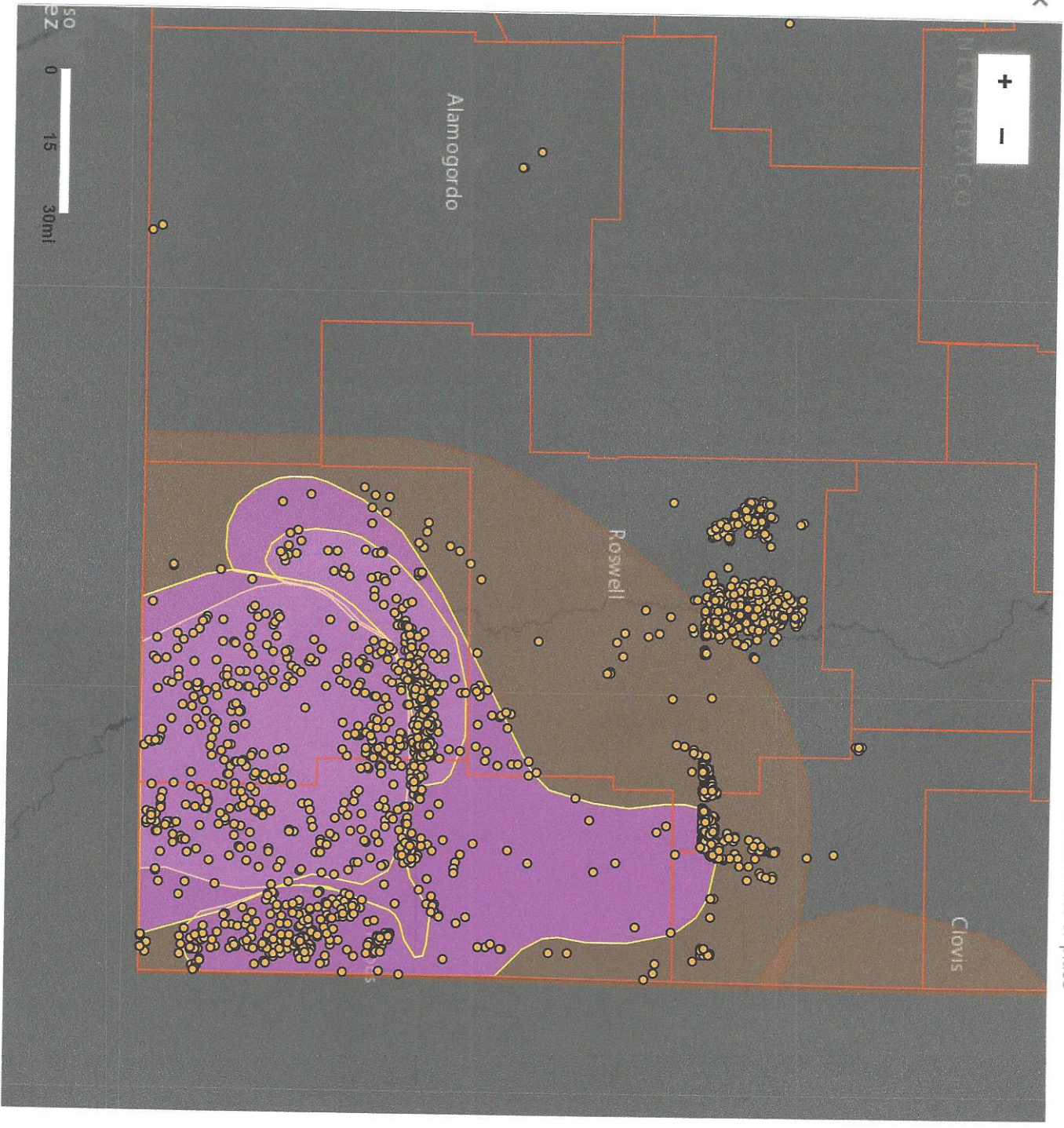
Shale Basins



X



Find address or place



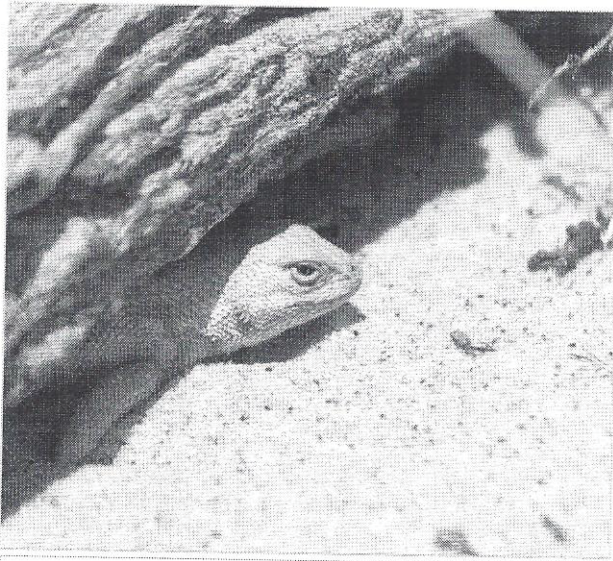


Figure 1. The dunes sagebrush lizard (*Sceloporus arenicolus*) is endemic to shinny oak sand dunes of eastern New Mexico and West Texas, where it is threatened by a variety of factors. Credit: Mark L. Watson / Flickr / CC BY-NC-ND

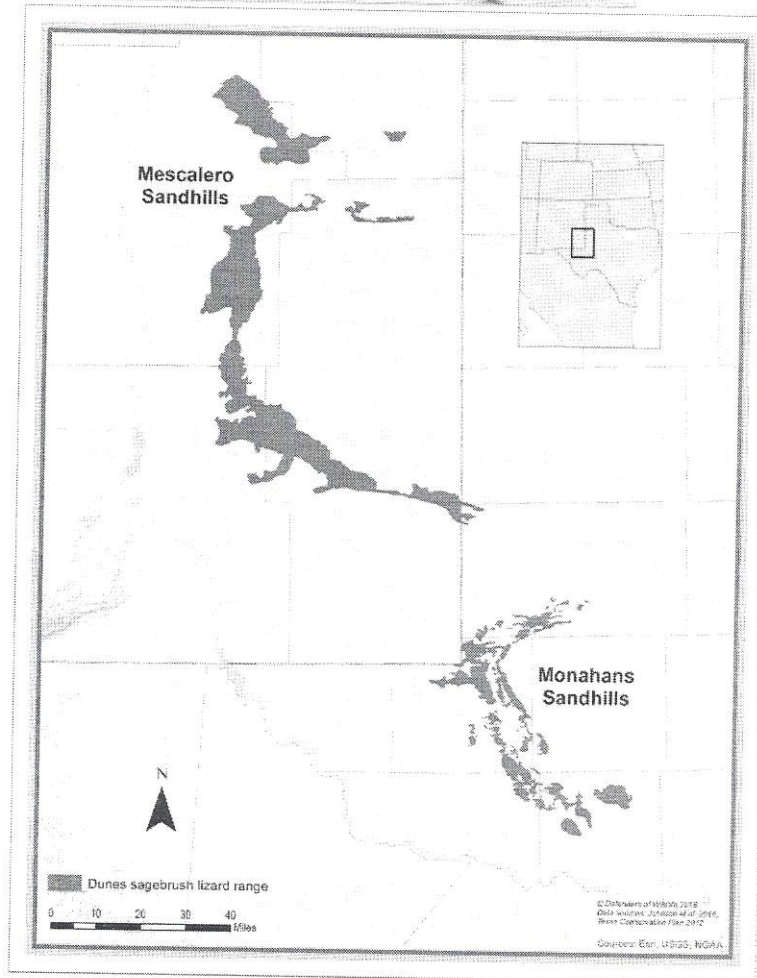
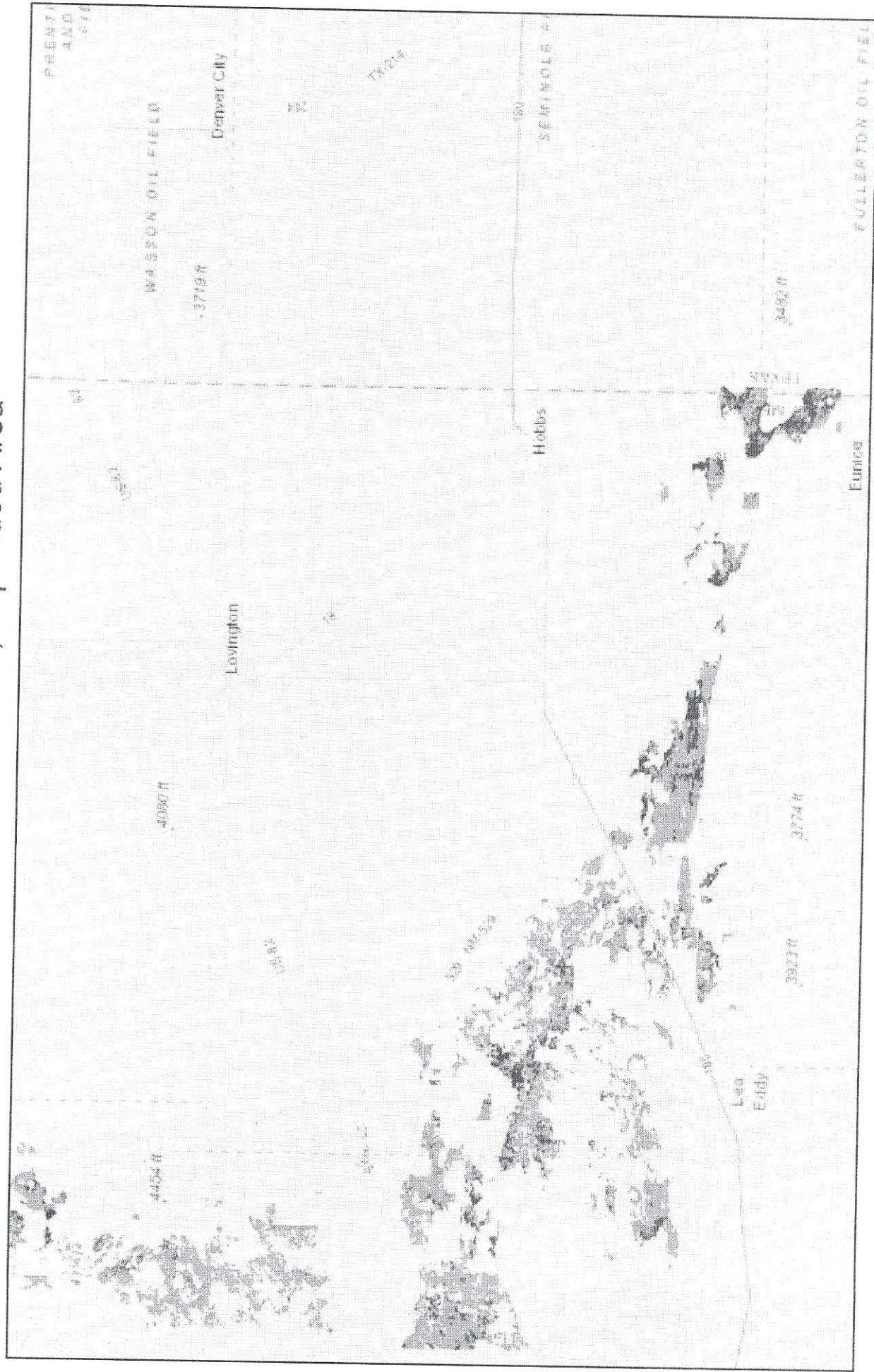
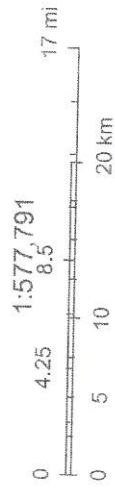


Figure 2. The dunes sagebrush lizard is a habitat specialist restricted to a shinny oak sand dune habitats in the Mescalero Sandhills of eastern New Mexico and the Monahans Sandhills of West Texas. If the lizard is lost from either of these two areas, it will have lost essential representation and cannot be considered conserved.

DSL Suitable Habitat; Expanded Area



May 11, 2018



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri