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*Application for admission
pro hac vice pending

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF UTAH
CENTRAL DIVISION

GRAND CANYON TRUST,

Plaintiff,

v.

NUCLEAR REGULATORY COMMISSION,

Defendant.

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Case No. 2:00 CV-0288K

MOTION FOR SUMMARY JUDGMENT

Plaintiff moves under Fed. R. Civ. P. 56 for summary judgment under the Freedom of Information Act ("FOIA") on the sole cause of action in its complaint. By this motion, Plaintiff

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Dated this 2nd day of June 2000.

Respectfully submitted,

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MEMORANDUM IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT

I. INTRODUCTION

This case involves a public interest group's right to obtain information from the government free of charge concerning a federally licensed waste site on the banks of the Colorado River. The Atlas tailings pile, a massive radioactive tailings site under the supervision

of the Nuclear Regulatory Commission ("NRC"), leaches thousands of gallons of pollutants into the Colorado River near Moab every day. Since the long-time owner and licensee of the site, the Atlas Corporation, declared bankruptcy in September of 1998, conservation groups, Utah citizens, and numerous public officials have expressed concerns about whether sufficient funds are available to finance a cleanup. To determine whether and how the NRC would assure sufficient funding for the cleanup -- as it is required by statute to do -- the Grand Canyon Trust and other interested groups filed a Freedom of Information Act ("FOIA") request with the NRC.

Although the NRC located numerous responsive documents and found that the request was not in the requesters' commercial interest, the NRC denied the requested FOIA fee waiver on the grounds that the request was not in the public interest. The NRC does not dispute that it regulates the Atlas tailings site; nor does the NRC dispute that the public has an interest in the cleanup of the massive water pollution in the Colorado River flowing from the site. Rather, the NRC argues that the cleanup does not involve the "activities or operations of the federal government." Moreover, the NRC asserts that the request as a whole would not contribute to public understanding because the requesters can obtain some of the documents in the NRC's public reading room. As set forth below, the NRC's refusal to grant the fee waiver unlawfully denies concerned Utah citizens their right to obtain information about the NRC's regulatory activities free of charge, in violation of the express provisions of FOIA.

II. STATEMENT OF MATERIAL FACTS

1. On September 22, 1999, the Grand Canyon Trust sent a FOIA request to the NRC for information in the NRC's possession related to the financial status and bankruptcy of the Atlas Corporation. See Letter from Christopher Arend to Russell Powell, September 22, 1999

(Attached as Exhibit A). The requesters sought this information because of their concern about pollution from the Atlas site, the government's cleanup plans, and, specifically, whether the NRC could assure that adequate resources are available to finance the cleanup. See Exhibit A; letter from Marie Kirk to Nina Pugh, October 27, 1999 (Attached as Exhibit B).

2. At the time of the request, the Atlas Corporation was the licensee of the Atlas tailings site, over which the NRC has regulatory jurisdiction. See e.g., Final Environmental Impact Statement Related to the Reclamation of the Uranium Mill Tailings at the Atlas Site, Moab, Utah, March 1999, at iii, 1-1 (excerpted as Exhibit C). Since then, the Atlas Corporation has turned over its license and all responsibility for the site to a Reclamation Trustee, which has limited funds and limited liability for cleanup expenses.

3. The initial FOIA letter requested:

All documents, correspondence and other material, including written, electronic and verbal communications, phone logs, etc. located in your records from September 1998 through September 1999 related to the Atlas Corporation's bankruptcy status and proceedings as well as any information on the financial status of the Atlas Corporation.

Exhibit A. In that letter, plaintiffs specifically requested a waiver of fees associated with the request, noting:

[n]either Earthjustice nor its clients would derive any income or commercial benefit from use of any of the documents. These documents will be used to increase the public understanding of government activities related to finalizing and funding a reclamation plan for the Atlas Mill Tailings pile while the Atlas Corporation is undergoing bankruptcy proceedings.

Id.

4. On September 29, 1999 the NRC sent a letter acknowledging its receipt of the FOIA request and informed the requesters that more information was needed to make a

determination to waive fees under 10 C.F.R. §9.41. See Letter from Carol Ann Reed to Christopher Arend, September 29, 1999 (attached as Exhibit D). On October 18, 1999, the NRC notified the requesters that the agency had found responsive documents, and issued a statement of fees totaling \$383.26. See Statement of Estimated Fees for Freedom of Information Act (FOIA) Request (attached as Exhibit E). The agency also notified the requesters that more information was needed to make a determination to waive fees. See id.

5. On October 27, 1999, the requesters sent the NRC a letter explaining in detail why the requesters satisfy each of the eight questions relevant for a waiver of fees as specified in 10 C.F.R § 9.41. See Exhibit B. Among other factors, the requesters explained that the information sought was expected to increase the public's understanding of the financing of the cleanup of the Atlas site, that the information would be disseminated to the public widely through newsletters, action alerts, meetings, and other means, and that the information was not in the commercial or private interest of the requesters. See id.

6. On December 20, 1999, the NRC sent a letter acknowledging that the requesters had responded to fee waiver criteria (1)-(8) as requested. See Letter from Carol Ann Reed to Marie Kirk, December 20, 1999 (attached as Exhibit F). Nevertheless, in that same letter the NRC informed the requesters that the request for a fee waiver "cannot be favorably considered because the NRC is prohibited by law (5 U.S.C. 504) from funding 'parties intervening in regulatory or adjudicatory proceedings' before the NRC." Id.

7. Prior to this FOIA request, in a separate matter, Earthjustice Legal Defense Fund filed a Request for Hearing and Petition for Leave to Intervene on behalf of the requesters and

several other parties with the NRC on January 27, 1998.¹ This petition alleged a number of shortcomings in the NRC's proposed amendment to Atlas's materials license to cap the tailings pile in place next to the Colorado River. The Petitioners' request for hearing and petition for leave to intervene was granted on February 17, 2000.

8. The language relied upon by the NRC FOIA Officer to deny the fee waiver is codified as part of the Equal Access to Justice Act ("EAJA"), which provides that "(n)one of the funds in this Act...or subsequent Energy and Water Development Appropriations Acts shall be used to pay the expenses of, or otherwise compensate, parties intervening in regulatory or adjudicatory proceedings funded in such Acts." 5 U.S.C. § 504. This statute governs the award of attorneys' fees in federal court and administrative proceedings; it does not reference FOIA or fee waivers under FOIA. See id.

9. The requesters timely filed an administrative appeal of NRC's December 20, 1999 decision to deny the fee waiver. See Marie Kirk, Appeal to an Initial Fee Waiver Denial, January 13, 2000 (attached as Exhibit G). In the administrative appeal, the requesters notified NRC that its refusal to provide the requested fee waiver violated FOIA, that the agency had not met its burden to show that the fee waiver was not in the 'public interest,' and that section 504 is not relevant in deciding a fee waiver request pursuant to FOIA. See id.

10. In a March 2, 2000 letter, the Secretary of the NRC determined that section 504 does not apply in this case because the requesters' petition to intervene was not granted until February 17, 2000; nevertheless, the NRC denied the administrative appeal. See Letter from Annette Vietti-Cook to Marie Kirk, March 2, 2000, (attached as Exhibit H). This time, the NRC

¹ The pleadings in this matter are on file with the NRC, Docket No. 40-3452-MLA-3.

concluded that the Grand Canyon Trust had not satisfied the public interest test because “[the] subject matter does not concern the operations or activities of the federal government” and “the documents are [not] likely to contribute significantly to the public’s understanding of federal Government operations or activities.” Id. According to NRC, the plan to finalize and fund a cleanup at the Atlas site is merely a “licensee’s activity that was subject to NRC approval” and does not concern the operations or activities of the federal government. Id.

11. Atlas’s reclamation plan was described by the NRC as a “federal proposed action” in an Environmental Impact Statement evaluating the environmental consequences of the project pursuant to the National Environmental Policy Act (“NEPA”). See Exhibit C at 1-1. In addition, the proposed project to reclaim the Atlas tailings pile by capping it in place was the subject of formal Endangered Species Act (“ESA”) consultation as an “agency action” between the NRC and the U.S. Fish and Wildlife Service. See Final Biological Opinion for the Proposed Reclamation of the Atlas Mill Tailings Site in Moab, Utah at 1 (excerpted as Exhibit I). The NRC offered an opportunity for a hearing to interested members of the public regarding Atlas’s application to amend its Materials License to allow it to reclaim the tailings pile in place. See 59 Fed. Reg. 16665.

12. The Grand Canyon Trust has exhausted its administrative remedies in accordance with 10 C.F.R. § 9.43.

III. STANDARD OF REVIEW

Although the standard of review for decisions of government agencies normally is the deferential “arbitrary and capricious” standard, Congress has specifically provided that a District Court’s review of an agency decision under FOIA, including a decision to deny a fee waiver,

must be de novo. See 5 U.S.C. § 552(A)(4)(A)(vii); McClellan Ecological Seepage Situation v. Carlucci, 835 F.2d 1282, 1284 (9th Cir. 1987); Friends of the Coast Fork v. U.S. Dep't of the Interior, 110 F.3d 53, 54 (9th Cir. 1997); Fitzgibbon v. Agency for International Development, 724 F. Supp. 1048, 1050 (D.D.C. 1989). Therefore, in evaluating an agency's denial of a FOIA fee waiver, the Court accords no deference to the agency's determination. See id.

Federal Rule of Civil Procedure 56(c) provides that summary judgment shall be granted "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to summary judgment as a matter of law." Celotex Corp. v. Catrett, 477 U.S. 317, 325, 91 L.Ed.2d 265, 275 (1986).

IV. STATUTORY FRAMEWORK

Congress passed FOIA to promote honest and open government and to ensure the existence of an informed citizenry "to hold the governors accountable to the governed." NLRB v. Robbins Tire & Rubber Co., 437 U.S. 214, 242 (1978). Disclosure, not secrecy, is the dominant objective of FOIA. See Department of Air Force v. Rose, 425 U.S. 352, 361 (1976). To promote the disclosure of information about government activities, Congress provided that a waiver of fees for FOIA requests shall be generally available to any requester upon a showing that the request is in the public interest. See 5 U.S.C. § 552(a)(4)(A)(iii). In the mid-1980s Congress specifically amended FOIA "to remove the roadblocks and technicalities which have been used by various Federal agencies to deny waivers or reductions of fees under the FOIA." 132 Cong. Rec. S16496 (Oct. 15, 1986) (Sen. Leahy).

Under the revised fee waiver provisions, 5 U.S.C. § 552(a)(4)(A)(iii), disclosure is

deemed to be in the public interest if “it is likely to contribute significantly to public understanding of the operations or activities of the government and is not primarily in the commercial interest of the requester.” Once a requester meets its burden of showing that the request is in the public interest, a fee waiver is mandatory. See 5 U.S.C § 552(a)(4)(A)(iii) (“Documents *shall* be furnished without any charge...if disclosure of the information is in the public interest”) (emphasis added); see Friends of the Coast Fork v. U.S. Dep’t of the Interior, 110 F.3d 53, 54 (9th Cir. 1997) (“FOIA requires the federal government to furnish documents to public interest groups free of charge...if the disclosure of the information is in the public interest”).

To implement these provisions, FOIA requires agencies to promulgate regulations establishing procedures for determining fee waiver requests. See 5 U.S.C. § 552(a)(4)(A)(vii). NRC regulations set forth eight questions for requesters and a six-factor balancing test for the agency to evaluate whether a request is in the public interest. See 10 C.F.R § 9.41 (b)-(d). Based on the eight questions, a requester must show, for example, that the requester will disseminate the material widely, that the requester possesses the ability to utilize the information and will use it to contribute to public understanding, and that the request is not primarily in the requester’s commercial interest. See id. Once the requester has answered the eight questions, the NRC must consider the following six factors to determine whether a fee waiver is in the public interest:

- (1) How the subject of the requested agency records concerns the operations or activities of the Government;
- (2) How the disclosure of the information is likely to contribute to an understanding of Government operations or activities;
- (3) If disclosure of the requested information is likely to contribute to the public understanding;
- (4) If disclosure is likely to contribute significantly to public understanding of Government operations or activities;
- (5) If, and the extent to which, the requester has a commercial interest that would be furthered by the disclosure of the

requested agency records; and, (6) If the magnitude of the identified commercial interest of the requester is sufficiently large, in comparison with the public interest in disclosure, that disclosure is primarily in the commercial interest of the requester.

10 C.F.R. § 9.41(d).

Once the FOIA requester has made a sufficiently strong showing of meeting the public interest test of the statute, the burden is on the agency to justify the denial of the requested fee waiver. See Friends of the Coast Fork, 110 F.3d at 54; Oregon Natural Desert Association v. Dep't of Interior, 24 F.Supp.2d 1088, 1095 (D. Oregon 1998); Ettlinger v. FBI, 596 F. Supp. 867, 874-75 (D. Mass. 1984). "If a requester makes a prima facie showing of entitlement, which the government does not satisfactorily rebut, the Court must reverse and remand with instructions to grant the requesters a full fee waiver." Friends of the Coast Fork, 110 F.3d at 54. Moreover, on judicial review, the agency may not introduce new rationales for its decisions. See id. at 55. "[T]he agency must stand on whatever reasons for denial it gave in the administrative proceeding. If those reasons are inadequate, and if the requesters meet their burden, then a full fee waiver is in order." Id. Because Congress's purpose was to make fee waivers generally available, the fee waiver provisions are "to be liberally construed in favor of waivers for noncommercial requesters." See McClellan Ecological Seepage Situation, 835 F.2d at 1284 (quoting 132 Cong. Rec. S14298 (Sept. 30, 1986)).

V. ARGUMENT

To encourage citizens to obtain information about their government, Congress has mandated through FOIA that government agencies provide information to citizens free of charge if the request is in the public interest. See 5 U.S.C. § 552(a)(4)(A)(iii); Friends of the Coast Fork v. U.S. Dep't of the Interior, 110 F.3d 53, 54 (9th Cir. 1997). In this case, the NRC has adopted a

view of the “public interest” that effectively guts the FOIA’s fee waiver provisions as they apply to the NRC. Under the NRC’s reasoning, public information about the cleanup of NRC-regulated waste sites around the country is merely the business of private licensees – not an activity of the federal government. Also, according to the NRC, because it maintains a public document room with *some* of the agency’s records on file, the public will not derive any benefits from a disclosure of records under FOIA. Under the NRC’s logic, the NRC would practically never have to grant fee waivers to any requesters. Virtually all of the NRC’s activities and operations relate to the supervision of private licensees who run nuclear reactors, store nuclear byproducts, manage nuclear waste, or carry out other regulated functions. Moreover, the mere existence of a public document room does not negate the public’s interest in disclosure of requested documents under FOIA.

Once a FOIA requester has made a sufficiently strong showing of meeting the public interest test of the statute, the burden is on the agency to justify the denial of the requested fee waiver. See Friends of the Coast Fork, 110 F.3d at 54; Oregon Natural Desert Ass’n, 24 F.Supp.2d at 1095; Ettlinger v. FBI, 596 F. Supp. at 874-75. As set forth below, the NRC has failed to adequately refute the Grand Canyon Trust’s showing that its FOIA request will benefit the general public. The Grand Canyon Trust is clearly entitled to a fee waiver in this case, and because the NRC’s has failed to advance any valid reason to deny the waiver, the decision must be reversed.

A. THE FOIA REQUEST RELATES SQUARELY TO THE NRC’S
REGULATORY RESPONSIBILITIES OVER THE ATLAS CLEANUP

NRC’s primary reason for determining that the Grand Canyon Trust’s FOIA request is not in the public interest is that the FOIA request did not relate to government activities or

operations. See Exhibit H at 2. In support of this statement the NRC argues: (1) the request was solely for information about the Atlas bankruptcy and financial status; (2) the request related to activities of the licensee, not the NRC; and (3) the NRC had already approved a license amendment authorizing the reclamation plan at the time of the FOIA request. See id. The NRC reasoned as follows:

Although you have explained that upon your receipt, the documents you seek will be used to increase public understanding of government activities related to finalizing and funding a reclamation plan for the Atlas Mill Tailings pile during the pendency [sic] of the Atlas Corporation bankruptcy proceedings, the subject matter you are requesting from the September 1998 through September 1999 time frame relate solely to the financial status and bankruptcy status of the Atlas Corporation. Although the NRC approved the original reclamation plan during the 1980s and an amended reclamation was approved by NRC in 1999, there have been no further approvals by NRC concerning a final reclamation plan in light of the licensee's bankruptcy. Moreover, the reclamation plan itself does not constitute a government operation or activity. The reclamation plan is the licensee's activity that was subject to NRC approval.

Exhibit H at 2. Contrary to the NRC's arguments, federal law and the record demonstrate that the Grand Canyon Trust's FOIA request does relate to the NRC's activities and operations.

First, the NRC argues that the request related solely to the financial status and bankruptcy of the Atlas Corporation, and therefore was not in the public interest. However, the Grand Canyon Trust has made a prima facie showing that the bankruptcy of the Atlas Corporation does relate to the public interest. As the Grand Canyon Trust explicitly informed the NRC, the purpose of the FOIA request was to: "ensure that adequate funding is available for a cleanup at the Atlas site and to require the government to address the funding shortfall as soon as possible in accordance with environmental laws." See Exhibit B at 1. Although the request asked for documents regarding the financial status and bankruptcy of the Atlas Corporation, the Grand Canyon Trust explained that the purpose of the request was to obtain documents concerning the

NRC's handling of Atlas's funding shortfall, information on the availability of resources, and the effect of the lack of funds on the cleanup. All of these types of documents are within the purview of the FOIA request, and each of these categories of documents relate to "finalizing and funding" a reclamation plan for the Atlas site. See Exhibit A at 1. Federal courts have made clear that "[t]he basic concern of the FOIA is making available information that an informed electorate needs to properly monitor the activities of the federal government." Fine v. U.S. Dep't of Energy, 823 F. Supp. 888, 895 (D. N.M. 1993). Here, the Grand Canyon Trust intended to monitor the NRC's ability to assure a cleanup of the Atlas site. The NRC has never argued that the requested documents will be unhelpful to the public in monitoring the NRC's plans to deal with the licensee's insolvency.

Second, the NRC contends that the FOIA request does not implicate federal activities because the reclamation plan is an activity of the licensee, not the NRC. This overly narrow interpretation of government activities is incorrect. The NRC in its charter legislation specifically is required to protect the public from harms associated with the nuclear industry by developing regulations and overseeing the activities of licensees. In particular, with regard to nuclear byproduct materials, such as uranium mill tailings, the NRC must:

Ensure that the management of any byproduct material . . . is carried out in such manner as . . . the Commission deems appropriate to protect the public health and safety and the environment from radiological and nonradiological hazards associated with the processing and with the possession and transfer of such material, taking into account the risk to the public health, safety and the environment, with due consideration of the economic costs and such other factors as the Commission determines to be appropriate.

42 U.S.C. § 2114(a). In this case, the NRC's mandate to protect the public from the hazards of nuclear byproduct material brings the Atlas reclamation plan squarely within the activities of the

NRC. As the U.S. Supreme Court has held, “Official information that sheds light on an agency’s performance of its statutory duties falls squarely within the FOIA’s purpose.” U.S. Dep’t of Justice v. Reporters Comm. For Freedom of the Press, 489 U.S. 749 (1989); Fine v. U.S. Dep’t of Energy, 823 F. Supp. 888, 895 (D. N.M. 1993).

We also note that although the NRC argues that the Atlas reclamation is not one of its activities under FOIA, the NRC has conceded under every other applicable law that the reclamation *is* an activity or operation of the federal government. For example, the NRC explicitly identified the Atlas reclamation plan as a “federal proposed action” in an Environmental Impact Statement (“EIS”) evaluating Atlas’s cleanup plan. See Exhibit C at 1-1. In addition, the Atlas reclamation plan was the subject of a formal consultation between the NRC and the FWS pursuant to the ESA. This consultation culminated in a 100-page Biological Opinion by the FWS evaluating the impacts of the proposed reclamation plan on endangered species. As the NRC knows, the ESA’s consultation provisions apply only to “federal agency actions.” See 16 U.S.C. § 1536. By engaging in consultation on the impacts of the reclamation, the NRC has implicitly conceded that its licensing activities and the carrying out of the reclamation plan constitute an “operation or activity of the federal government.” The fact that an independent licensee actually carries out the plan is of no consequence under federal law.

Third, the government’s duty to assure a proper cleanup did not end with the decision to approve Atlas’s license amendment, as NRC appears to argue. According to federal law and NRC regulations, NRC has an ongoing duty to assure that adequate funding is available for the cleanup of nuclear byproduct material. See 42 U.S.C. § 2201(x); 10 C.F.R. part 40, App. A. The duty to assure adequate funding for cleanup activities continues “until final compliance with

the reclamation plan is determined.” Id. Moreover, the NRC has an independent and ongoing duty to ensure that its licensing decisions do not harm endangered species. See 16 U.S.C. § 1536(a)(1)-(2) (federal agencies have a duty to utilize their authorities to conserve endangered and threatened species and must formally consult with the U.S. Fish and Wildlife Service concerning any activities that may affect such species). As the Biological Opinion on the impacts of the proposed reclamation on endangered species indicates, the NRC’s capping plan is contingent upon the agency’s ongoing assurance that the licensee will clean up the groundwater within a 10-year time period. See Exhibit I at 86-89.

In sum, under NRC regulations and under the ESA, the reclamation of the tailings site is clearly an ongoing regulatory activity of the NRC. Obviously, the public’s concern about the viability of the Atlas cleanup plan became heightened after the NRC approved the Atlas’s reclamation plan in May 1999 while knowing that the licensee was in bankruptcy. The Grand Canyon Trust’s September 1999 request was designed precisely to uncover documents dealing with the Atlas bankruptcy and the NRC’s response to it. In light of the intense public concern about the cleanup of the Moab site and the NRC’s significant ongoing federal involvement and responsibility, the NRC’s contention that the public has no interest in the funding process is completely insupportable.

**B. THE NRC NEVER EXPLAINS WHY THE INFORMATION SOUGHT
WOULD FAIL TO IMPROVE PUBLIC UNDERSTANDING OF ISSUES
RELATED TO THE CLEANUP**

Here, the requesters made a prima facie showing that the documents requested would contribute to “public understanding of government activities related to finalizing and funding a reclamation plan for the Atlas Mill Tailings pile.” See Exhibit A at 1. As the Grand Canyon

Trust explained, the release of the documents “will greatly enhance the public’s overall understanding of the cleanup at the mill site and how the NRC plans to address the Atlas bankruptcy.” Exhibit B at 2. The NRC has failed to make any argument that the substance of the documents would not contribute to public understanding about finalizing and funding Atlas’s reclamation plan.

The NRC’s only argument that release of the documents would not contribute to public understanding is that “some of the records responsive to your request are already available in the Public Document Room (PDR), e.g., correspondence related to the Atlas Corporation bankruptcy.” See Exhibit H at 2. According to the NRC, the request is not in the public interest because the requesters can view indexes of documents online, travel to the NRC’s PDR in Washington, D.C. to view the documents, and/or pay an onsite contractor to research and copy the documents. See id. This argument is contrary to FOIA’s intent to eliminate or reduce the costs associated with requests that are in the public interest.

First, the NRC completely ignores the fact that only “some” of the requested documents are located in the NRC’s public document room. See Exhibit H at 3. If only some of the documents are available in the PDR, obviously some of them are *not* available in the public document room. For these records, the NRC gives no reason for why the fee waiver should be denied. Even assuming the documents in the PDR would not contribute to public understanding because of their public availability, federal law is clear that an agency may not withhold a fee waiver because *some* of the documents would not contribute to public understanding. See Campbell v. Dep’t of Justice, 164 F.3d 20, 36 (D.C. Cir. 1998). According to the D.C. Circuit, “The presence of administrative material within files that also contain substantive documents

does not justify charging fees for copying the non-substantive clutter.” Id. The reason for this rule is that “Congress presumably did not intend agencies to pick through responsive records to determine the percentage of the record that contains interesting morsels and to deem the remainder of the record irrelevant to public understanding.” Id. If the request generates some documents that contribute to public understanding, then a requester is generally entitled to a full fee waiver for its request. It falls to the requester – not the agency -- “to parse the wheat from the chaff.” Id.

Second, even if *all* the documents requested were already available in the NRC’s public document room, federal courts have soundly rejected this argument as a basis for denying fee waivers. See Friends of the Coast Fork, 110 F.3d at 54-55 (“the documents’ availability in a public reading room alone [does not justify] denial of a fee waiver”); Fitzgibbons v. Agency for Int’l Development, 724 F. Supp. 1048, 1057 (D. D.C. 1989) (“[t]he availability of FOIA material in an agency’s public reading room does not thrust the material into the public domain”). Denial of a fee waiver is particularly inappropriate when an agency’s public document room is located a considerable distance from the requesters. See Friends of the Coast Fork, 110 F.3d at 55 (agency denial of fee waiver was unreasonable because requesters would have had to travel 100 miles from Portland, Oregon to Sacramento, California, to review documents in public reading room). Here, members of the Grand Canyon Trust would have to travel nearly 2,000 miles to the NRC’s public document room in Washington, D.C. – and incur significant travel and lodging expenses – to view only *some* of the documents responsive to its request. This expense would far outweigh the NRC’s estimated cost of \$383.26 to process and copy the documents and send them to the requesters. See Exhibit E.

Finally, contrary to the NRC's assumption in its letter denying the fee waiver, although not required by FOIA to do so, the requesters in fact did avail themselves of the agency's indexing services and public document room in September 1999. While traveling on another matter to Washington, D.C., counsel for the Grand Canyon Trust visited the public document room and reviewed the Atlas hearing file. However, the Grand Canyon Trust wished to obtain *all* the documents responsive to its request, not just *those in the public document room*.

Accordingly, in connection with the request for a waiver of fees, the Grand Canyon Trust wrote:

As a non-profit and an environmental organization, we are very much aware of the need to use our resources efficiently and avoid waste. In that spirit, it is our intention to minimize the expense and time involved in processing our request while still obtaining the information sought. If and when a fee waiver is granted, we are committed to working with you to avoid unnecessary copying and labor costs by attempting to eliminate from the request any documents that we may already possess due to our involvement in these issues.

Exhibit B at 3-4. In light of the Grand Canyon Trust's obvious efforts to minimize its own time and expense as well as the government's, the NRC's arguments in this context are particularly untenable.

As the Grand Canyon Trust has demonstrated, the documents requested are likely to shed light on how the NRC plans to ensure an adequate cleanup in the face of Atlas's funding shortfall. Because the government has failed to rebut the requesters' prima facie showing that the information requested will contribute to public understanding, the NRC's decision to deny the fee waiver must be reversed.

VI. CONCLUSION

This case involves a classic FOIA request in which a not-for-profit group seeks to obtain information about the cleanup of a massive waste site managed by the federal government. The fee waiver should have been routinely granted. Nevertheless, the NRC initially claimed that the requesters' intervention in a regulatory proceeding before the NRC automatically precludes the award of a fee waiver under FOIA, even though FOIA contains no such provision. When that rationale failed, the NRC argued that reclamation of a waste site under NRC supervision does not relate to government activities. Finally, the agency asserted that no fee waiver was needed because the requesters could travel thousands of miles at their own cost to get *some* of the documents they requested. Under these rationales, it is difficult to see how any requester would ever get a fee waiver from the NRC. Under the plain requirements of FOIA, the NRC's decision must be reversed.

For the foregoing reasons, plaintiffs respectfully request that the Court:

- (1) Grant Plaintiff's motion for summary judgment on the cause of action set forth in its Complaint;
- (2) Declare NRC's action in denying the fee waiver unlawful, and;
- (3) Reverse and remand with instructions to the NRC to grant the Plaintiff a full fee waiver.

Dated this ____ day of June 2000.

Respectfully submitted,

Marie A. Kirk

Marie A. Kirk

Susan D. Daggett

Earthjustice Legal Defense Fund

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Attorneys for Plaintiff

CERTIFICATE OF SERVICE

I do hereby certify that a copy of MOTION FOR SUMMARY JUDGMENT, and MEMORANDUM IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT has been served on all interested parties by U.S. mail, and properly addressed this 2 day of June, 2000.

Sam Hansen

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Paul Warner
U.S. Attorney
U.S. Attorney's Office
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EXHIBIT A



EARTHJUSTICE
LEGAL DEFENSE FUND

BOZEMAN, MONTANA DENVER, COLORADO HONOLULU, HAWAII
JUNEAU, ALASKA NEW ORLEANS, LOUISIANA SAN FRANCISCO, CALIFORNIA
SEATTLE, WASHINGTON TALLAHASSEE, FLORIDA WASHINGTON, D.C.

FOIPA REQUEST

Case No:
Date Recd:
Action Off:
Related Case:

99-377
9-28-99
Pugh

September 22, 1999

File: 812

U.S. Nuclear Regulatory Commission
Attn: Russell A. Powell, FOIA/Privacy Act Officer
FOIA/LPDR Branch
Mail Stop T-6 D8
Washington, DC 20555-001

Dear Mr. Powell:

Please consider this a request for documents in accordance with the provisions of 5 U.S.C. § 552, *et seq.*, commonly known as the Freedom of Information Act. Earthjustice Legal Defense Fund submits this request on behalf of our clients the Grand Canyon Trust, Sierra Club, Colorado Plateau River Guides and Grand County, Utah (collectively "The Trust").

I would appreciate it if you could provide all documents, correspondence and other material, including written, electronic and verbal communications, phone logs, etc. located in your records from September, 1998 through September, 1999, related to the Atlas Corporation's bankruptcy status and proceedings as well as any information on the financial status of the Atlas Corporation.

Earthjustice Legal Defense Fund (formerly Sierra Club Legal Defense Fund) is a non-profit public interest environmental law firm committed to the enforcement of our nation's environmental laws. Neither Earthjustice nor its clients would derive any income or commercial benefit from use of any of the documents. These documents will be used to increase the public understanding of government activities related to finalizing and funding a reclamation plan for the Atlas Mill Tailings pile while the Atlas Corporation is undergoing bankruptcy proceedings. I therefore request a waiver of any fees associated with this request.

Pursuant to 5 U.S.C. § 552, I would appreciate a response within twenty days of your receipt of this request. In the event that you have any questions concerning the type of materials I am interested in receiving, please contact me as soon as possible at (303) 623-9466. I appreciate the time and effort which goes into processing this request.

Yours truly,

A handwritten signature in black ink, appearing to read "Chris Arend", written over the typed name.

Christopher Arend
Rocky Mountain Office

EXHIBIT B



EARTHJUSTICE
LEGAL DEFENSE FUND

BOZEMAN, MONTANA DENVER, COLORADO HONOLULU, HAWAII
JUNEAU, ALASKA NEW ORLEANS, LOUISIANA SAN FRANCISCO, CALIFORNIA
SEATTLE, WASHINGTON TALLAHASSEE, FLORIDA WASHINGTON, D.C.

October 27, 1999

Ms. Nina Pugh
Freedom of Information and Privacy Act Officer
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Re: FOIA Request No. 99-377

Dear Ms. Pugh:

This letter is in regard to a Freedom of Information Act ("FOIA") request sent by Earthjustice Legal Defense Fund (formerly Sierra Club Legal Defense Fund) to the NRC on September 22, 1999 requesting documents relating to the bankruptcy of the Atlas Corporation. Your office assigned this request Case No. 99-377. In response, you sent a statement of estimated fees and indicated that you need more information in order to process our request for a fee waiver. I am happy to provide you with that information. In accordance with NRC guidelines, we are submitting responses to the following criteria (1)-(8) in support of our request for a fee waiver.

- (1) Describe the purpose for which the requester intends to use the requested information.

Our request for documents relating to the Atlas bankruptcy is part of an effort to ensure that adequate funding is available for a cleanup at the Atlas site and to require the government to address the funding shortfall as soon as possible in accordance with environmental laws.

- (2) Explain the extent to which the requester will extract and analyze the substantive content of the agency record.

Earthjustice Legal Defense Fund is a nonprofit law firm dedicated to protecting our natural resources and the environment. Our attorneys and research associate are experts at sifting through voluminous agency records and extracting important information and analyzing it in a highly useable and understandable format. Once Earthjustice receives the information, our staff will carefully study the entire record and incorporate useful information into written reports, letters, emails, and articles that we will disseminate to our clients and the public. In particular, we intend to extract information that will enhance the public's understanding of the financial issues surrounding groundwater cleanup.

- (3) Describe the nature of the specific activity or research in which the agency records will be used and the specific qualifications the requester possesses to utilize information for the intended use in such a way that it will contribute to public understanding.

LAW FIRM FOR THE ENVIRONMENT
1631 GLENARM PLACE, SUITE 300, DENVER, CO 80202-4303
T: 303 623-9466 F: 303 623-8083 E: ejusco@earthjustice.org W: www.earthjustice.org

Earthjustice represents a number of clients in an effort to secure an adequate and fully funded cleanup at the Atlas mill tailings site near Moab, Utah. These parties include the Grand County, Utah, the Grand Canyon Trust, the Sierra Club's Utah chapter, the Colorado Plateau River Guides (an association of several hundred independent licensed river guides), 3-D River Visions (a family owned business), and Dave Bodner, Ken Sleight, and Joseph Knighton (individuals who live near Moab and use the river near the Atlas tailings pile). These groups and individuals represent an extensive network of people who reside near the Atlas tailings pile and/or have a keen interest in a proper cleanup of the site that assures protection for the Colorado River and the endangered fish that inhabit it. We intend to use the information derived from this request to improve our understanding and the public's understanding of the financial issues critical to a cleanup of the Atlas site and to work with government officials and citizens to ensure that a fully funded cleanup occurs as soon as possible.

Our lawyers and clients have participated in public meetings, education and outreach, and discussions related to the Atlas site. For example, because of our ongoing efforts at the Atlas site, we and our clients were invited to participate in discussions with the NRC, the U.S. Fish and Wildlife Service, the Department of Energy, and the state of Utah, to address cleanup issues precipitated by the Atlas bankruptcy. During these high-level negotiations, in which we and our clients will represent the interests of hundreds of people who are concerned about the Atlas site, it is imperative that we have access to the most up-to-date, thorough, and accurate information.

Earthjustice Legal Defense Fund is uniquely qualified to collect, analyze, and disseminate this information. Earthjustice has over 28 years of experience in environmental litigation and advocacy. Our attorneys and research associate have extensive knowledge of environmental laws and policies as well as experience in disseminating information in an educational and informative format.

(4) Describe the likely impact on the public's understanding of the subject as compared to the level of understanding of the subject existing prior to disclosure.

The Atlas Corporation's mill tailings site near Moab, Utah, is a highly visible and controversial site. However, little is known at the present time about how the NRC and the new reclamation trustee, who will oversee cleanup at the site, plan to spend the little remaining available funds and plan to ultimately dispose of the site in light of the Atlas bankruptcy. If the information requested is obtained, it will greatly enhance the public's overall understanding of the cleanup at the mill site and how the NRC plans to address the Atlas bankruptcy.

- (5) Describe the size and nature of the public to whose understanding a contribution will be made.

Earthjustice and our clients represent an extensive network of people, many of whom live, work, or recreate near the Atlas site, who are concerned about environmental issues. We are constantly in contact with a large sector of the public through newsletters, websites, public meetings, phone calls, grass roots "knocking-on-doors," and other means. The size of the public who will eventually receive this information is very large, and many of them live in the Moab area and are directly affected by the pollution flowing from the pile.

- (6) Describe the intended means of dissemination to the general public.

In conjunction with our clients, we will disseminate the information from this request through newsletters and publications. All the groups involved have either national or regional syndication. This includes Earthjustice's *In Brief*, and Sierra Club's *Sierra*. Information from this request also will be distributed through working with the national media. Articles have appeared on the mill tailings pile in newspapers such as *USA Today*, *Greenwire*, and *High Country News*. Many reporters call us for information about the Atlas site and ask our attorneys about the cleanup, and we will continue to pursue similar national coverage. We will also disseminate the information to the public through action alerts, public meetings and hearings, conferences, discussion, phone calls, person-to-person contact, and internet postings. Some of our clients and Earthjustice maintain active internet sites where this information will be made available to the public. Thus, the information will be disseminated through a large number and variety of media outlets to the public generally and to a targeted audience of persons who live near the Atlas site and have a significant interest in the cleanup of the mill tailings and in eliminating the high levels of pollution currently occurring in the groundwater and the Colorado River.

- (7) Indicate if public access to information will be provided free of charge or provided for an access fee or publication fee.

All information will be made available free of charge.

- (8) Describe any commercial or private interest the requester or any other party has in the agency records sought.

Earthjustice Legal Defense Fund is a nonprofit public interest environmental law firm committed to the enforcement of our nation's environmental laws. Neither Earthjustice nor its clients will derive any income or commercial benefit from use of any of the documents.

As a non-profit and an environmental organization, we are very much aware of the need to use our resources efficiently and avoid waste. In that spirit, it is our intention to minimize the

Ms. Nina Pugh
October 26, 1999
Page 4

expense and time involved in processing our request while still obtaining the information sought. If and when a fee waiver is granted, we are committed to working with you to avoid unnecessary copying and labor costs by attempting to eliminate from the request any documents that we may already possess due to our involvement in these issues. Please feel free to call me to discuss this further or to forward an index of the responsive documents before responding to the entire request. Thank you for your time and attention.

Sincerely,

A handwritten signature in cursive script that reads "Marie A. Kirk".

Marie A. Kirk

MAK/II

EXHIBIT C

Final
Environmental Impact Statement
Related to Reclamation of the
Uranium Mill Tailings at the
Atlas Site, Moab, Utah

Source Material License No. SUA 917
Docket No. 40-3453
Atlas Corporation

U.S. Nuclear Regulatory Commission

Office of Nuclear Material Safety and Safeguards

March 1999

ABSTRACT

This Final Environmental Impact Statement (FEIS) has been prepared by the Nuclear Regulatory Commission (NRC), Office of Nuclear Material Safety and Safeguards, to address potential environmental impacts associated with a request by Atlas Corporation to amend its existing NRC License No. SUA-917 to reclaim in place an existing uranium mill tailings pile near Moab, Utah. The proposed reclamation would allow Atlas to (1) reclaim the tailings pile for permanent disposal and long-term custodial care by a government agency in its current location on the Moab site, and (2) prepare the 162-ha (400-acre) Moab site for site closure. The FEIS describes and evaluates (1) the purpose of and need for the proposed action, (2) alternatives considered, (3) potentially affected environmental resources, (4) environmental consequences of the proposed action, and (5) costs and benefits associated with reclamation alternatives.

The National Park Service (NPS), U.S. Department of the Interior, was a cooperating agency in the preparation of this FEIS. In this role, the NPS provided information to the preparers of the FEIS, submitted comments on preliminary drafts of the EIS, and assisted in defining proposed sampling protocols for the collection of additional information on water quality and aquatic biota. The NPS does not necessarily agree with the analysis and conclusions in this FEIS.

A Draft Environmental Impact Statement (DEIS) on the proposed reclamation was published for public and agency comment in January 1996. A public meeting was held in Moab on February 28, 1996, to receive comments on the DEIS. The comment period closed on April 29, 1996. This FEIS incorporates revisions in response to comments received. A summary of the comments on the DEIS and responses to comments are presented in Appendix A. The comment letters received are reproduced in Appendix J.

After an extensive consultation process under Section 7 of the Endangered Species Act, in July 1998 the U.S. Fish and Wildlife Service (FWS) issued their Final Biological Opinion on the impacts of the proposed project to endangered and threatened species. The Final Biological Opinion concluded that the proposed project would jeopardize the continued existence of four endangered fish species due to continued leaching of contaminants into the Colorado River, water depletion impacts, and/or destruction or adverse modification of designated habitat. The FWS included reasonable and prudent alternatives to avoid the likelihood of jeopardy to the endangered fishes and to avoid destruction or adverse modification of their critical habitat, as well as reasonable and prudent measures to minimize the incidental take of southwestern willow flycatcher, razorback sucker, and Colorado squawfish. These requirements would be included in any license amendment approved by NRC on the proposed reclamation plan.

The analysis of impacts presented in the FEIS indicates that the Atlas proposed on-site reclamation with recommended mitigation will significantly reduce the impact of contaminants entering the Colorado River, but a rigorous determination of whether the proposed action will meet the FWS ammonia concentration requirements specified in the Final Biological Opinion cannot be made without additional data and analyses by the applicant. All other environmental aspects of the

proposed action are acceptable. The FEIS compares the proposed on-site reclamation to an alternative of moving the tailings to an alternative site on Klondike Flat. NRC staff's analysis finds that no aspect of the relocation alternative would have a potentially significant, adverse, long-term environmental or socioeconomic impact. Some of the short-term impacts, including radiation doses associated with moving the tailings, would be greater for the relocation alternative. Thus, the short-term impacts and the significantly higher economic cost of moving the tailings are the major disadvantages of the relocation alternative

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FOREWORD

This Final Environmental Impact Statement (FEIS) addresses the administrative action and potential environmental consequences of authorizing Atlas Corporation to reclaim an existing uranium mill tailings pile on Atlas property near Moab, Utah. Atlas would conduct reclamation activities in compliance with an amendment to its existing License No. SUA-917 issued by the U.S. Nuclear Regulatory Commission (NRC). Questions concerning this FEIS should be sent to:

Chief, Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards
Mail Stop TWFN 7J-9
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
Telephone (301) 415-7238

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ACKNOWLEDGEMENTS

This Final Environmental Impact Statement (FEIS) has been prepared by the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Material Safety and Safeguards with the assistance of Oak Ridge National Laboratory. The National Park Service (NPS), U.S. Department of the Interior, has been a cooperating agency in the preparation of this FEIS. In this role, the NPS provided information to the preparers of the FEIS, submitted comments on preliminary drafts of the EIS, and assisted in defining proposed sampling protocols for the collection of additional information on water quality and aquatic biota. The NPS does not necessarily agree with the analysis and conclusions in this FEIS. The Bureau of Land Management, U.S. Department of the Interior, which had originally been identified as a cooperating agency, withdrew because of a lack of a defined role in the project. In preparing an independent analysis for this FEIS, the staff used information provided by Atlas Corporation in its application for license amendment, federal, state, and local government agencies, and other individuals and organizations who had special knowledge of environmental resources and related activities relevant to the proposed action.

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ACRONYMS AND ABBREVIATIONS

AADT	annual average daily traffic
ACL	alternate concentration limit
ag/L	attograms per liter
ALARA	as low as reasonably achievable
amsl	above mean sea level
Atlas	Atlas Corporation
ATV	all terrain vehicle
BA	Biological Assessment
BLM	Bureau of Land Management
Bq	Becquerel
Bq/g	Becquerel per gram
Bq/m ² /s	Becquerel per square meter per second
°C	degrees Celsius
CAP	corrective action plan
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
Ci	curies
cm	centimeter
CO	carbon monoxide
dB(A)	decibels on the A-weighted scale
DEIS	draft environmental impact statement
DEQ	Department of Environmental Quality
DOE	U.S. Department of Energy
DOI	Department of the Interior
EA	environmental assessment
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
°F	degrees Fahrenheit
<i>Fed. Reg.</i>	<i>Federal Register</i>
FEIS	final environmental impact statement
FEMA	Federal Emergency Management Agency
FONSI	finding of no significant impact
ft	feet
FWS	U.S. Fish and Wildlife Service
g	strength of earth's gravitational field (acceleration of 980•cm sec ⁻²)
gal	gallon
GEIS	generic environmental impact statement
gpd	gallons per day

ACRONYMS AND ABBREVIATIONS (continued)

gpm	gallons per minute
Gy/day	gray per day
ha	hectare
HF	hypothetical flood
hp	horsepower
hr	hour
ISC	Industrial Source Complex
kg	kilogram
km	kilometer
km ²	square kilometer
kV	kilovolt
L	liter
LCF	latent cancer fatalities
LPG	liquid petroleum gas
L/min	liters per minute
LOEAL	lowest observed adverse effects level
LTSP	long-term surveillance plan
m	meter
m ²	square meter
m ³	cubic meter
m ³ /s	cubic meter per second
MCE	maximum credible earthquake
MCL	maximum concentration limit
MEI	maximally exposed individual
MeV	million electron volts
mg	milligram
mg/L	milligram per liter
Mgd	million gallons per day
ml	milliliter
min	minute
M _L	Richter magnitudes
MP	milepost
mph	miles per hour
mrem	millirem
mSv	milli-Sievert (100 millirems)
μCi	microcuries
μg	micrograms
NAAQS	National Ambient Air Quality Standards
NAS	National Academy of Sciences
NCRP	National Council for Radiation Protection and Measurements
NEPA	National Environmental Policy Act of 1969
NESHAP	National Emission Standards for Hazardous Air Pollutants

ACRONYMS AND ABBREVIATIONS (continued)

ng	nanogram
ng/m ³	nanogram per cubic meter
NMSS	Office of Nuclear Material Safety and Safeguards
NO ₂	nitrogen dioxide
NOI	notice of intent
NOAEL	no observed adverse effects level
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRC	U.S. Nuclear Regulatory Commission
O ₃	ozone
ORNL	Oak Ridge National Laboratory
ORNL/GJ	Oak Ridge National Laboratory, Grand Junction Office
Pb	lead
pCi/m ² /s	picocuries per square meter per second
pCi/g	picocuries per gram
PCPI	per capita personal income
pg/m ³	picogram per cubic meter
PGA	peak ground acceleration
pH	a measure of hydrogen ion concentration (acid/basic)
PM-10	particulate matter less than 10 microns in diameter
PMF	probable maximum flood
POC	point-of-compliance
ppm	parts per million
PSD	prevention of significant deterioration
Publ. L.	public law
s	second
SO ₂	sulfur dioxide
SPCC	spill prevention, control, and countermeasures
Sv	Sievert
TDS	total dissolved solids
TER	Technical Evaluation Report
TPI	total personal income
TSP	total suspended particles
UDNR	Utah Department of Natural Resources
UDOT	Utah Department of Transportation
UMTRCA	Uranium Mill Tailings Radiation Control Act of 1978
UMTRAP	Uranium Mill Tailings Radiation Control Act Program
USC	United States Code
USGS	U.S. Geological Survey
VMT	vehicle miles traveled
V ₂ O ₅	vanadium oxide
WL	working level

ACRONYMS AND ABBREVIATIONS (continued)

yd ²	square yard
yd ³	cubic yard
yr	year

SUMMARY AND CONCLUSIONS

This Final Environmental Impact Statement (FEIS) has been prepared under the direction of the staff of the U.S. Nuclear Regulatory Commission (NRC) and issued by the Commission's Office of Nuclear Material Safety and Safeguards (NMSS). The National Park Service (NPS), U.S. Department of the Interior has been a cooperating agency in the preparation of this FEIS. In this role, the NPS provided information to the preparers of the FEIS, submitted comments on preliminary drafts of the report, and assisted in defining proposed sampling protocols for the collection of additional information on water quality and aquatic biota. The NPS does not necessarily agree with the analysis and conclusions in this FEIS.

1. This action is administrative, involving a licensing decision in response to a license amendment request from Atlas Corporation, Denver, Colorado. Atlas proposes to reclaim an existing uranium mill tailings pile on the Atlas site near Moab, Utah, and has requested NRC to amend its existing License No. SUA-917 to allow this proposed reclamation. The Atlas mill ceased operations in 1984 and has been dismantled except for one building. The stabilization of the 9.52-million-metric-ton (10.5-million-ton) uranium mill tailings pile for long-term disposal is evaluated in this FEIS. The proposed license amendment would allow Atlas to (1) reclaim the 52.6-ha (130-acre) tailings pile for permanent disposal and long-term custodial care by a government agency in its current location on the Moab site, and (2) prepare the 162-ha (400-acre) Moab site for site closure.

Under the Atlas proposal, the side slopes of the pile would be reduced to 30 percent [i.e., 0.9 m (3 ft) vertical per 3 m (10 ft) horizontal] or less to minimize effects of erosion and possible earthquakes. Also, an earth and rock cover system would be installed over the pile and around its sides and base to minimize radon escape, infiltration of rain water into the tailings, infiltration of tailings contaminants into groundwater, and tailings erosion potentially caused by surface runoff and flooding of the Colorado River and a nearby ephemeral stream known as Moab Wash. Earth and cover materials would likely be obtained from several borrow sites, including a site for crushed bedrock near Potash to the southwest of the Atlas site, an area for rounded cobble in Spanish Valley southeast of Moab, and an area for clay on Klondike Flat northwest of Moab near the Canyonlands Airport.

Alternatives considered in this FEIS include (1) moving the tailings by rail for disposal at the Plateau site, about 29 km (18 miles) northwest of Moab; (2) the no-action alternative under which Atlas would cease all operations involving environmental control of the tailings and NRC would make no licensing decision; (3) alternative modes of tailings transport, including conventional truck, off-road truck and private haul road, and slurry pipeline; and (4) other alternative disposal sites, including the Box Canyon site, the Rio Algom site, the Envirocare site, and the Emery County Development Corporation site. The FEIS compares the Atlas proposal with an alternative of tailings disposal at the Plateau site, which was identified during

scoping as one of the best alternate sites identified to date. Because the no-action alternative would not comply with NRC and other environmental regulations and would not be environmentally acceptable, it is not analyzed in detail.

2. A Draft Environmental Impact Statement (DEIS) was published and made available for public and agency review and comment in January 1996. A public meeting to receive comments on the DEIS was held in Moab on February 28, 1996. The comment period closed on April 29, 1996. Comments received have been reviewed by NRC staff and revisions have been made in this FEIS in response to comments. On March 7, 1997, NRC made available the final Technical Evaluation Report (TER) that evaluates the technical adequacy of Atlas's proposed design for tailings pile reclamation. The final TER evaluates engineering aspects of the Atlas proposal and its compliance with Appendix A to 10 CFR Part 40, whereas this FEIS focuses on the analysis of environmental impacts. The draft TER was made available for public comment along with the DEIS, and responses to public comment on the draft TER are provided in Appendix A of the final TER.
3. In compliance with consultation requirements of Section 7 of the Endangered Species Act, NRC submitted a Biological Assessment (BA) on potential impacts to endangered and threatened species to the U.S. Fish and Wildlife Service (FWS) on November 1, 1995. In response to FWS' review of the BA and their concerns about the need for additional information, a Supplement to the BA was prepared and submitted to the FWS in January 1997. After extensive discussions and reviews of drafts of the Biological Opinion, the FWS submitted their Final Biological Opinion to NRC on July 29, 1998. The Biological Opinion specified reasonable and prudent alternatives and measures to avoid jeopardizing the continued existence of endangered species in the vicinity of the Atlas site and to minimize incidental take, as defined in the Final Biological Opinion.
4. Major concerns raised during scoping are summarized in Section 1.5 of this FEIS. Public and agency comments on the DEIS are summarized and responses are provided in Appendix A of this FEIS. The major categories of concern were that:
 - a. Reclamation of tailings should provide maximum protection of public health and the environment and should be consistent with NRC policy and regulations and prior NRC actions involving tailings reclamation.
 - b. The NRC review is fragmented and NRC needs to evaluate the groundwater corrective action plan in the EIS.
 - c. The level of information on the chemical and physical composition of the tailings is limited, and more data should be collected.
 - d. Over the long term, earthquakes, subsidence, landslides, and the frequent flushing of the tailings base by flood waters could compromise pile stability.
 - e. A failure of the tailings pile would contaminate the Colorado River, resulting in impacts on the environment and downstream water users.
 - f. Tailings leachates entering the groundwater and the Colorado River would have an adverse impact on water quality and aquatic biota, including endangered and threatened species;

- g. The tailings pile would impact recreation, tourism, and the local economy.
 - h. The environmental impact statement (EIS) should provide a comprehensive technical and cost-benefit analysis of alternatives, including the use of the best and most recent information.
 - i. Extraction and transport of borrow materials for the proposed reclamation at the Atlas site would adversely affect residents near the borrow areas and traffic in Moab and along the transportation routes.
 - j. Reclamation of the pile in place would preclude future use of at least half the Atlas site.
 - k. Moving the pile to the Plateau site would largely eliminate future risks of contaminants affecting human health and ecological resources and would allow future commercial use of the Atlas site.
5. The assessment of potential environmental consequences of the Atlas proposal and the Plateau site alternative is based on existing information provided by the licensee, state and Federal government agencies, literature searches, personal communications, and observations made by NRC staff on several site visits. Although considerable concern about the adequacy of data was made during the DEIS comment period, NRC has thoroughly reviewed the available data, incorporated new information that has become available since publication of the DEIS, and concluded that sufficient information is available to evaluate environmental impacts of the proposed action and alternatives.

The following summary of impacts includes consideration of a hypothetical, maximum tailings pile failure in which 20 percent of the tailings pile enters the Colorado River during a hypothetical flood. However, staff do not expect the tailings pile to fail because it would be designed to withstand earthquake and flooding conditions anticipated at the Atlas site.

- a. Fugitive dust and vehicle emissions would add to existing levels of air pollutants in the region, which are in compliance with national ambient air quality standards (NAAQS). Fugitive dust during reclamation under either alternative would not be expected to cause exceedances of NAAQS, although more dust, vehicle emissions, and noise would result from moving the pile than reclaiming it in place. No other source of air pollutants has been identified that would cause a significant impact in combination with the Atlas proposal or the Plateau site alternative. Long-term releases of air pollutants after reclamation at either the Atlas site or Plateau site would be very small, would most likely be less than those presently occurring at the Atlas site, and would not cause exceedance of air quality standards.
- b. No long-term land use change would result from the Atlas proposal. Because the tailings pile would continue to occupy a portion of the Atlas site under the Atlas proposal, future use of roughly half of the site for other purposes would be precluded. Under the Plateau site alternative, unrestricted use of the entire Atlas site could occur after completion of reclamation and groundwater cleanup, but the time required to clean up groundwater is unknown at this time. The Plateau site alternative would result in the loss of a few hundred acres of grazing land, which represents a very small fraction of the extensive similar lands available for grazing in the region. Deposition of tailings onto downstream lands after a

hypothetical tailings pile failure and flood would add to any existing level of contamination resulting from past deposition of contaminants in the river from all upstream sources during previous floods. In the event of such a hypothetical pile failure and flood, the long-term custodian of the site (i.e., DOE or the State of Utah) would be responsible for monitoring potentially affected areas and undertaking any needed cleanup. Staff considers the proposed design that was reviewed and accepted in the final TER to be sufficient to withstand the extreme conditions considered in the FEIS analysis. Therefore, staff concludes that there should be no appreciable long-term impact on land uses along the river.

- c. The use of water during reclamation under the Atlas proposal or the Plateau site alternative should be minimal under Atlas' existing water rights. Potable water would be supplied from the Moab water system and could cause a slight increase in the total groundwater use in the Moab area. Water for control of fugitive dust and other reclamation purposes could be withdrawn from the Colorado River under Atlas' senior water rights. Under the Plateau site alternative, tailings leachates would no longer enter the alluvial aquifer at the Atlas site, but the contamination of the groundwater that has already occurred would persist for an unknown period of time. No impact to groundwater at the Plateau site would be anticipated, because the clay underlying the disposal cell would act as a clay liner to prevent leaching of contaminants, and no viable supply of groundwater has been identified there. No water use would occur for the Atlas proposal or the Plateau site alternative after reclamation is completed.
- d. Any hydrological impact associated with the tailings reclamation at the Atlas site or the Plateau site would be negligible. About 0.2 ha (0.5 acres) of 100-year floodplain would be lost at the mouth of Moab Wash as a result of its reconfiguration (see discussion in h. below). Atlas must determine if a permit from the U.S. Corps of Engineers would be required for conducting reclamation activities in the floodplain. Most floodplain in the immediate area has been protected from development by the establishment of the Scott Matheson Wetlands Preserve immediately across the river from the Atlas site. No floodplain is present at the Plateau site.
- e. Impacts on surface water quality would be reduced from the existing situation by reclamation of the pile under either alternative. During reclamation-associated activities, surface runoff associated with both alternatives could temporarily add to existing levels of impacts on surface water quality in the Colorado River. With adequate controls, this cumulative, temporary impact would be expected to be negligible. After reclamation under the Atlas proposal, tailings leachates would continue to enter the Colorado River at a reduced rate and, given effective implementation of appropriate measures and controls, would have a small, generally undetectable impact on surface water quality. The greatest potential for impact would occur during periods of low flow in the river when the tailings contribution to flow would be fractionally larger than during high flows. Existing data indicate that manganese, molybdenum, ammonia, and uranium increase downstream of the pile. Of these, ammonia has been identified by FWS as the principal concern for aquatic life.

At the Plateau site, the clay layer beneath the tailings and the underlying Mancos Shale would restrict the escape of tailings leachates, thus preventing impacts to a nearby ephemeral wash and the Colorado River, which is far downstream. The hypothetical tailings pile failure at the Atlas site would have a relatively large, short-term impact (e.g., several weeks) and a small, long-term impact on water quality, which would likely be undetectable after a short time period (e.g., months to several years) after the failure. Over the long term, most tailings contaminants would represent a small fraction of the large amount of existing contaminants continually transported by the river.

- f. Aquatic biota in the Colorado River would be affected by any changes in surface water quality resulting from the Atlas proposal or the Plateau site alternative. Under existing conditions, only ammonia has been shown to occur at levels potentially toxic to aquatic life within the mixing zone. The ammonia levels in and near the interface where groundwater discharges into the river may be sufficiently high to be toxic to organisms residing in or near the substrate. Based on the analysis presented in Section 4.5.2.4 and the data in Table 4.6-1, even at record low flow, contaminant concentrations beyond the mixing zone are well below both state water quality standards and toxicity benchmarks with the exception of ammonia and gross alpha. Under the Atlas proposal, and without implementation of effective measures to reduce ammonia discharge to the river, potentially toxic concentrations of ammonia could continue to be released, but the extent of the affected area (i.e., the mixing zone) would be smaller. The FWS sets forth in its Final Biological Opinion as a reasonable and prudent alternative, requirements for limiting ammonia levels discharged into the Colorado River to concentrations safe for endangered fish populations within the next few years (see discussion in g. below). A clear determination cannot be made that all ammonia standards identified by FWS can be met, because of uncertainties imposed by incomplete site data. Staff will require the applicant to perform additional site measurements and a rigorous analysis to determine whether the proposed action will meet the acute and chronic ammonia limits, as identified by FWS.

During reclamation operations, erosion control measures would be applied to prevent the occurrence of appreciable impact. After reclamation under the Atlas proposal, tailings leachates would continue to add slightly to existing contaminants in the river, potentially having a minor impact on aquatic biota within the much reduced mixing zone, but groundwater would have to be cleaned up to appropriate standards. The Plateau site alternative would eventually reduce the potential for impact on aquatic biota once groundwater cleanup to applicable standards is achieved, although the time and amount of cleanup required is unknown at this time. The hypothetical tailings pile failure would have immediate, but rather short-term impacts on water quality and aquatic biota.

- g. Threatened and endangered species could be affected by the proposed reclamation. Consultation with the U.S. Fish and Wildlife Service (FWS) under Section 7 of the Endangered Species Act resulted in a Final Biological Opinion concluding that the proposed reclamation would jeopardize the continued existence of four endangered fish species. To avoid jeopardy, the FWS developed reasonable and prudent alternatives that require

development and implementation of an expedited groundwater corrective action program to reduce the release of contaminants into the Colorado River via the groundwater pathway to meet state and federal standards within seven years. In addition, the Final Biological Opinion requires reasonable and prudent measures to minimize the incidental take of southwestern willow flycatcher, razorback sucker, and Colorado squawfish. NRC will include the terms and conditions specified in the Final Biological Opinion as conditions of the license amendment for the proposed reclamation, should it be approved.

- h. Atlas' proposed reclamation would disturb or destroy about 0.2 ha (0.5 acre) of floodplain habitat at the Atlas site, but a similar amount of equivalent or superior habitat would be created to compensate for the loss. Terrestrial habitats at borrow areas would be temporarily disturbed. A portion of the floodplain habitat that would be disturbed on the Atlas site is tamarisk wetland, which is of limited importance to wetland wildlife but may be used by the southwestern willow flycatcher. Under the Plateau site alternative, the loss of a few hundred acres of sparse vegetation at Klondike Flat that supports low numbers of wildlife would occur from construction of a new disposal cell. No threatened or endangered plant or animal is likely to be affected under the Plateau site alternative. Under the proposed action, no reduction in habitat or wildlife populations numbers would be anticipated in the event of the hypothetical tailings pile failure.
- i. Reclamation of the tailings pile at either the existing Atlas site or the Plateau site would result in a slight, short-term increase in employment and population in the Moab area. This increase could add slightly to the effects of the increased population in the area during the primary tourist season. However, the Moab area should be able to absorb the increased population with no significant adverse impact. No impact on historic or cultural resources is anticipated under either alternative. The transport of borrow material by truck would add to existing traffic, have some adverse and beneficial impacts on business in Moab, and increase the potential for traffic accidents. Under the Plateau site alternative, the 7 to 12 years of moving the tailings pile and contaminated soils by rail could create a temporary adverse aesthetic impact. Because truck transport of borrow materials (Atlas proposal) and borrow material and mill debris (Plateau site alternative) in the Moab area would occur only for a limited time (1 to 2 years) and would be conducted primarily during the winter season, truck traffic associated with either the Atlas proposal or the Plateau site alternative would not be expected to produce a significant impact on traffic in Moab and along the transport routes. The hypothetical tailings pile failure could cause some temporary economic impact. Because impacts on water quality would be limited, tailings pile failure would not be expected to produce a significant economic impact related to surface water use.
- j. Doses to the maximally exposed individual (a resident adjacent to the Atlas site) and to the surrounding population were estimated based on computer modeling results and on actual measurements at the Atlas tailings pile and at other tailings piles. Impacts during reclamation of the tailings pile would be dominated by radon progeny (86 percent) rather than particulates (14%). After reclamation, essentially no release of radioactive particulates would occur, and radon releases would be reduced to less than the NRC limit of 0.74 Bq/m²/s

(20 pCi/m²/s). Dose to the maximally exposed individual from particulates and radon progeny during reclamation would be an estimated 0.78 mSv/yr (78 mrem/yr), which is below the NRC limit of 1 mSv/yr (100 mrem/yr). During reclamation, the total annual dose to the Moab population would be less than 0.052 person Sv (5.2 person rem) compared to a total natural background dose of about 18 person Sv (1800 person rem). After reclamation the doses to the maximally exposed individual and the Moab population would be 0.02 mSv/yr (2.0 mrem/yr) and 8×10^{-4} person Sv per year (0.08 person rem per year), respectively. Under expected working conditions, doses to reclamation workers on the tailings pile would be expected to be less than 0.01 Sv/yr (1 rem/yr). For the Plateau site alternative, annual doses during removal of the tailings would be about the same as the reclamation doses for the Atlas proposal, but the doses would last up to 7 years longer. A risk analysis conducted for transport of the tailings by rail to the Plateau site indicated that no acute fatalities would occur and that the number of latent cancer fatalities would not exceed 6.44×10^{-5} for the railroad crew or 1.50×10^{-4} for the general public.

- k. The analysis of costs and benefits associated with reclamation alternatives indicates that the proposed Atlas reclamation-in-place would cost significantly less (\$16 to \$19 million) than moving the pile to the Plateau site (\$72 to \$103 million). Both options could result in benefits from releasing land at the Atlas site for unrestricted use, but more land is likely to be available eventually for future uses under the Plateau site alternative, recognizing the uncertainty of the groundwater cleanup program.
6. Based on the evaluations in this FEIS, if NRC approves a license amendment to reclaim the tailings on the Atlas site, the licensee will be required to conform to the following conditions in addition to the requirements in the final TER (NRC 1997), permit conditions required by the State of Utah and other regulatory agencies, and requirements specified in the FWS' Final Biological Opinion:
- a. A plan to minimize emissions of fugitive dust during reclamation shall be submitted for NRC approval (Section 4.1.7).
 - b. A spill prevention and control plan and an erosion control plan applicable to the Atlas site and borrow areas shall be submitted for NRC approval (Section 4.5.2.6).
 - c. Interception and storage of sediment- and contaminant-laden runoff through use of adequate drainage control, retention and treatment ponds, silt fences, and other means as necessary (Section 4.5.2.6).
 - d. Avoidance of major earthmoving operations (such as the relocation of Moab Wash) during periods of high thunderstorm potential where and when feasible (Section 4.5.2.6).
 - e. Avoidance of siting potential borrow areas immediately adjacent to streams (Section 4.5.2.6).
 - f. Implementation of the reasonable and prudent alternatives and measures specified in the Final Biological Opinion to avoid jeopardy to endangered species and their critical habitat (Appendix C).

- g. An analysis, supported by additional site measurements, to show that the proposed action will result in meeting the acute and chronic ammonia limits in the Colorado River, as identified in the Final Biological Opinion (Section 4.5.2.4).
 - h. A survey by a qualified botanist to determine if Jones cycladenia is present in the vicinity of the proposed Kane Creek quarry site before any activities are initiated at the site. If the species is present, the licensee would be required to develop appropriate mitigative measures in consultation with the FWS to ensure that populations are protected from disturbance (Section 4.6.4.1).
 - i. Limitations on the use of the Potash quarry site to the December through February period to avoid impacting recreational use of the Potash boat ramp (Section 4.7.3.2).
 - j. Topographic and vegetative restoration of borrow areas as required by the State of Utah Division of Oil, Gas and Coal Mining (Section 4.5.2.6 and 4.7.4.3).
 - k. A borrow transport plan shall be submitted for NRC approval to minimize impacts on socioeconomics and recreation (Section 4.7.1.6 and 4.7.5.6).
7. On the basis of its independent review and evaluations, the NRC staff concludes that the Atlas proposal (i.e., reclamation for permanent disposal of the mill tailings on the Atlas site in Moab), with the conditions identified in item 6, is acceptable with respect to environmental costs and benefits, and, therefore, the staff recommends that Atlas' request for a license amendment to proceed with the on-site reclamation be approved.

1. PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

1.1.1 The Federal Proposed Action

This Final Environmental Impact Statement (FEIS) has been prepared in support of a Federal licensing decision to be made by the U.S. Nuclear Regulatory Commission (NRC), in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended. The decision is whether or not to approve Atlas Corporation's request for a license amendment on its proposed reclamation plan for on-site stabilization of uranium mill tailings at the Atlas site near Moab, Utah. The decision will be made after consideration of the analysis presented in this FEIS, which provides an environmental evaluation of the Atlas proposal and alternatives to that proposal. Atlas' proposed reclamation plan is referred to in this FEIS as the Atlas proposal. The NRC is the lead agency in preparing this FEIS, and the National Park Service (NPS) is a cooperating agency. The NPS does not necessarily agree with all analyses and conclusions presented in this FEIS.

A final Technical Evaluation Report (TER) evaluating the technical adequacy of Atlas' proposed design for tailings pile reclamation was published by NRC in March 1997 (NRC 1997). The TER evaluated engineering aspects of the Atlas proposal, while this FEIS assesses environmental impacts.

A Draft Environmental Impact Statement (DEIS; NRC 1996a) and a draft TER (NRC 1996b) were published and distributed for public comment in January 1996. A public meeting on the DEIS was held by NRC in Moab on February 28, 1996. Extensive comments on the DEIS were made at this meeting and in writing during the comment period that ended on April 30, 1996. Written comments are presented in Volume 2 (Appendix J) of this FEIS, and a summary of the comments and NRC responses to them are provided in Appendix A.

Subsequent to publication of the DEIS and in response to comments from the Department of the Interior (DOI) expressing concern about the data available for assessing impacts to endangered species, NRC prepared a Supplement to the Biological Assessment (Appendix B) containing updated data and analysis and submitted it to the U.S. Fish and Wildlife Service (FWS) in February 1997. As part of the consultation process under Section 7 of the Endangered Species Act, the FWS prepared a Draft Biological Opinion and a Revised Draft Biological Opinion that were reviewed and commented on by NRC and Atlas. The consultation process was completed in July 1998, when the FWS issued its Final Biological Opinion (Appendix C) which found that the proposed action would jeopardize the continued existence of four endangered fish species. The Final Biological Opinion included reasonable and prudent alternatives and measures to avoid jeopardy, which NRC will include as conditions of the license amendment should it be approved.

1.1.2 The Atlas Proposal

Atlas Corporation (Atlas) submitted an application to the NRC for an amendment to its existing NRC License No. SUA-917 covering the Atlas uranium mill and associated activities at the Atlas site located adjacent to the Colorado River near Moab, Utah (Fig. 1.1-1). The mill no longer operates and has been dismantled except for one building that is currently being used for office space. The nearby 9.5-million-metric-ton (10.5-million-ton) uranium mill tailings pile covers an area of about 53 ha (130 acres) and needs to be reclaimed for long-term disposal. The license amendment requested by Atlas would allow the licensee to (1) reclaim (stabilize) the tailings pile for permanent disposal in its current location on the Moab site, and (2) prepare the 160-ha (400-acre) site, which includes both the tailings pile and the former mill site, for site closure. Atlas has submitted to NRC detailed tailings reclamation plans and environmental data in support of its amendment request. The latest revision of the reclamation plan was submitted to NRC in October 1996 (Smith Technology Corporation 1996). In accordance with Federal regulations, NRC must determine whether or not the Atlas proposal would comply with the requirements of Appendix A of 10 CFR Part 40 as discussed in Section 1.4 of this FEIS.

Under the Atlas proposal, the side slopes of the tailings pile would be reduced to 30 percent [i.e., 0.9 m (3 ft) vertical per 3 m (10 ft) horizontal] or less to minimize effects of erosion and possible earthquakes. Also, an earth and rock cover system would be installed over the pile to minimize radon escape, infiltration of rain water into the tailings, infiltration of tailings contaminants into groundwater, and tailings erosion potentially caused by surface runoff from direct precipitation and flooding of the Colorado River and a nearby ephemeral channel known as Moab Wash. Clay and rock cover materials would be obtained from three proposed borrow sites (see Fig. 1.1-1): Klondike Flat, also referred to as the Plateau site, (clay), Spanish Valley (small rock), and Kane Creek (large rock).

1.1.3 Alternatives

Disposal of tailings at the Atlas site in Moab has become an issue, primarily because the site is adjacent to the Colorado River and is near the town of Moab and Arches National Park. In 1979, when the FEIS for the operation of the Moab uranium mill was published (NRC 1979), the majority of agency and public comments supported the continued operation of the mill, and disposal of the tailings at an alternate site was not an issue (Appendix A in NRC 1979). However, during the scoping process for the present Environmental Impact Statement (EIS) (see Section 1.5 below), several government agencies and members of the public proposed that the tailings be transported to an alternate site for disposal. Several possible alternate sites were identified during scoping and subsequent discussions with agencies and individuals. It is not NRC's role to select a specific alternate site or determine that the tailings must be moved to such a site. Rather, at this environmental stage in the licensing process, NRC's licensing decision is focused on reviewing Atlas' proposed reclamation plan to determine if the Atlas proposal is technically sound and whether the Atlas site at Moab is environmentally acceptable for tailings disposal.

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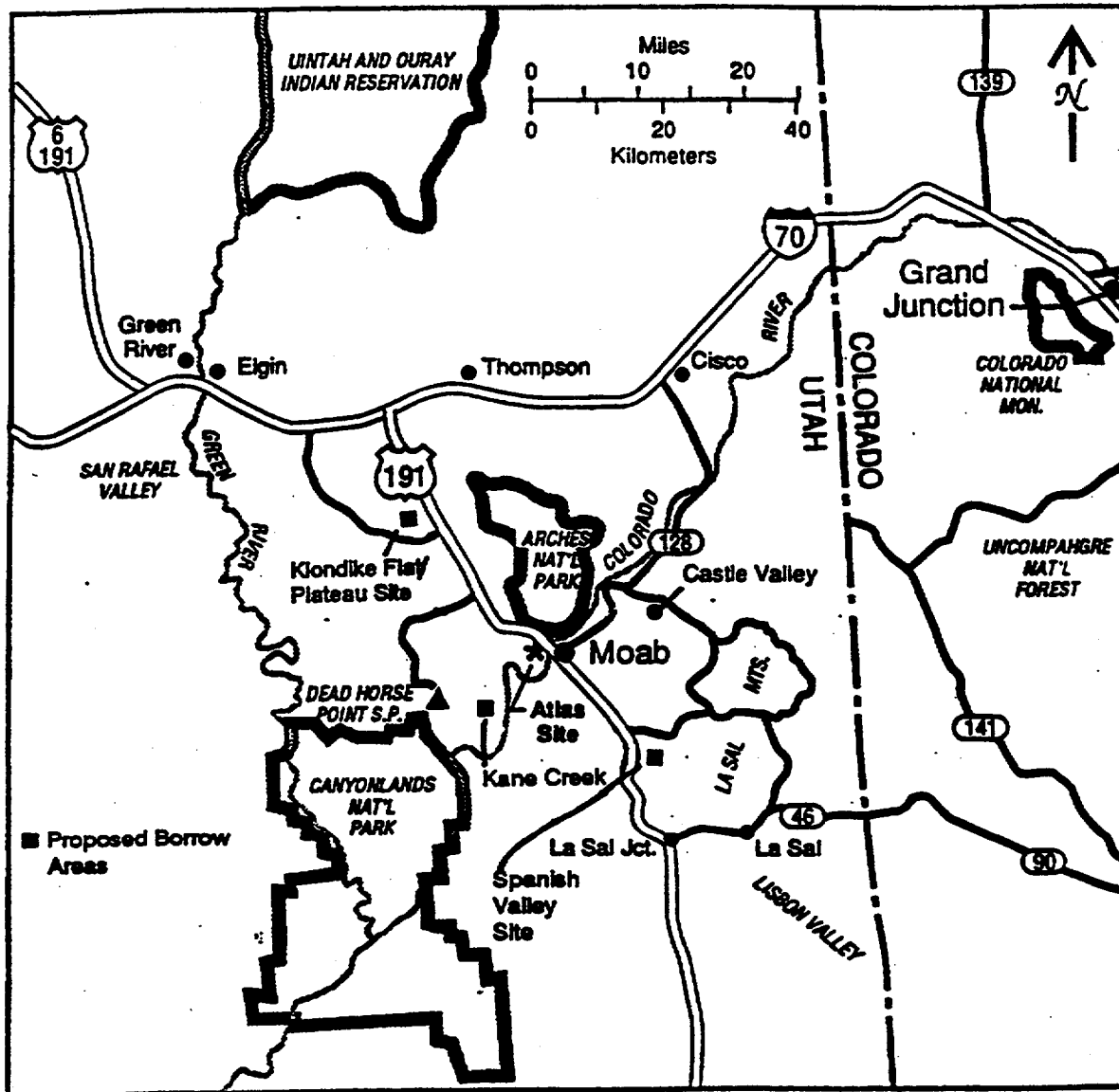


Figure 1.1-1. Regional Location of the Atlas Corporation Site Near Moab, Utah.

To provide a basis for evaluating the environmental acceptability of the Atlas proposal, this FEIS compares the proposed reclamation of the tailings pile on the Atlas site with the an alternative of moving the tailings for disposal to the Plateau site on Klondike Flats, approximately 29 km (18 miles) northwest of the town of Moab (Figure 1.1-1). The alternative of moving the tailings pile to the Plateau site was selected for evaluation on the basis of comments made during the EIS scoping process, discussions with other agencies and individuals, an NRC site visit, and other information. Under this alternative the tailings would be transported via an existing rail line to the vicinity of the Canyonlands airport, and then along a rail spur that would be built to connect the existing rail line to the Plateau site.

Under the no-action alternative, NRC would not approve a license amendment for on-site disposal at the Moab site as proposed by Atlas, and Atlas would cease management of the tailings. Because this alternative would not comply with NRC or environmental regulations and is not environmentally acceptable, it is not evaluated in detail in this FEIS.

1.1.4 Overview of Uranium Mill Tailings Hazards

A substantial amount of documentation is available dealing with the impacts of uranium milling and the resulting waste piles. The Atlas pile is not unique among tailing piles since the same processes were used that have been used for numerous other piles. Information from these other piles in terms of source (i.e., the pile) content of radioactive and nonradioactive materials, releases from these piles, and results of impact assessments for these piles are applicable to the Atlas pile except for site-specific factors. The integrated effects of site-specific factors are represented by the monitoring data that has been accumulated for the Atlas site. Characterization data for the Atlas pile confirm that the pile is similar to other piles.

The following selected references document the primary concerns that have been identified to be associated with uranium mill tailings piles in general and are referenced here for additional discussion of impacts:

- Final Generic Environmental Impact Statement on Uranium Milling (NUREG-0706), U.S. Nuclear Regulatory Commission, Washington, D.C.
- Final Environmental Impact Statement for Remedial Action Standards for Inactive Uranium Processing Sites (40 CFR Part 192).
- Summary of the Waste Management Programs at Uranium Recovery Facilities as they relate to the 40 CFR Part 192 Standards (NUREG/CR-4403).
- Scientific Basis for Assessment of Uranium Mill Tailings (NAS-NRC 1986).
- Correlation of Radioactive Waste Treatment Costs and the Environmental Impacts of Waste Effluents in the Nuclear Fuel Cycle for Use in Establishing "As Low as Practical"

Guides—Milling of Uranium Ores [ORNL/TM-4903; Generic Environmental Impact Statement on Uranium Milling, NUREG-0706 (1980)].

Most NRC NEPA documentation on licensing of uranium mills consists of EISs. Much of the DOE NEPA documentation under Title I of Uranium Mill Tailings Radiation Control Act of 1978, as amended (Pub.L. 95-604) (UMTRCA) concerning reclamation of uranium mill tailings piles consists of Environmental Assessments (EAs) rather than EIS. Approximately 30 EISs and EAs have been reviewed for information on impacts associated with various remediation alternatives.

Environmental documentation for other piles, monitoring data from the vicinity of the Atlas Pile, and the impact assessment presented in Section 4 of this FEIS support the following generic observations:

- Uranium mill tailings piles do not represent the high hazard potential that is associated with other components of the fuel cycle (e.g., reactors and spent fuel). The tailings are basically ground up materials typical of the areas where the ore was mined but with high levels of natural radionuclides relative to general average soil background levels. Levels of nonradioactive materials in the piles are typical of other ore recovery processes. Because the piles are of limited areal extent, doses from unremediated piles will be within the variation in background within 1 km (0.6 mile) of the piles. Total doses approach area background doses from normal area soils within 2 km (1.2 miles) from the piles.
- The primary impacts associated with uranium mill tailing piles, including the Atlas pile, are due to release of radon and subsequent ingrowth of the short-lived radon progeny.
- For dry uncovered piles, windblown particulate tailings releases can produce "tailing affected" areas of up to several hundred acres. Windblown tailings produce off-site doses through all pathways substantially less than the inhalation dose from radon progeny from the pile. The interim cover on the Atlas pile substantially reduces windblown tailings. Almost any measure that reduces radon emissions will eliminate windblown tailings.
- Releases of nonradioactive contaminants to air represent very small risks compared to radon progeny. Total particulate concentrations at 1 to 2 km (0.6 to 1.2 miles) from dry, uncovered piles are in the low microgram per cubic meter ($\mu\text{g}/\text{m}^3$) range. For the highest concentrations of nonradioactive toxic materials reported in these types of tailings, particulate air concentrations would range from picogram per cubic meter (pg/m^3) for the most toxic materials to nanogram per cubic meter (ng/m^3) for silicon. Because of the temporary cover on the Atlas pile, total particulate concentrations containing contaminants from the pile are much lower.
- Exposures to all toxic materials would be higher during removal of the pile compared to stabilization in place because greater quantities of tailings would be disturbed and exposed for a longer period of time.

- Doses via inhalation and external radiation can amount to 10-20 rems per year for continuous presence on or immediately adjacent to uncovered tailings piles. While this dose rate is more than an order of magnitude less than that which would result in immediate health effects, it is about two orders of magnitude higher than the 100 mrem/yr NRC limit for a member of the public. Direct access to the tailings pile that would result in continuous exposure is, therefore, unacceptable. During one period of time, it was common practice for tailings to be used as fill material under and around streets and buildings. Although the tailings were not considered to be an immediate danger, the practice was discontinued and numerous sites were remediated by removal of the tailings.
- If the Atlas tailings were dispersed to locations of human habitation (e.g., as a result of the extremely unlikely pile failure concurrent with the hypothetical flood, as discussed in Section 2.1.8 of this FEIS), then areas of tailings deposition likely would have to be cleaned up. Monitoring of contaminated areas (e.g., agricultural lands, residential area, shorelines) would be necessary to establish the extent of cleanup required. Cleanup in and along the river could be more difficult than for tailings displaced by human activities.

Although potential impacts through other pathways for both radioactive and non-radioactive materials are expected to be small relative to inhaled radon progeny, some comments on the DEIS suggested that the Atlas pile could be unique compared to other piles. While operational information and available characterization data provide no evidence that the Atlas pile is unique compared to other mill tailings piles, some commenters felt that a full characterization of the pile was necessary. Because of these concerns, staff have included additional information in Appendix D to support the conclusion that the Atlas pile is generally similar to other piles and exhibits similar characteristics related to potential site-specific impacts.

1.2 PURPOSE OF AND NEED FOR ACTION

In accordance with the UMTRCA and with NRC regulations (Section 1.4), NRC is required to act upon the license amendment request from Atlas. The purpose of NRC's licensing action is to determine whether Atlas has acceptably demonstrated that its proposal meets the requirements of Appendix A to 10 CFR Part 40, as they apply to existing sites, and whether the Moab site is environmentally acceptable for tailings disposal.

The Atlas uranium mill ceased operations in 1984 and except for one building has been dismantled. The tailings must be reclaimed adequately for long-term stability. The need for reclamation is to minimize the escape of hazardous substances into the surrounding environs to the extent feasible. To abandon the tailings pile at this time with no further environmental control (i.e., the no-action alternative) is not legally or environmentally acceptable.

The mill tailings pile contains high-volume, low-activity materials and elements that could be hazardous to the environment and public health. These substances are currently escaping the tailings pile at low rates. Tailings leachates are slowly diffusing downward into groundwater, some

of which moves horizontally and enters the Colorado River. Radioactive radon gas slowly escapes the tailings pile and enters the air. To minimize environmental contamination, Atlas has conducted a number of environmental control and corrective action programs, including placement of an interim cover on the tailings to prevent movement of contaminated windblown materials from the pile. Additional environmental protection measures are needed, however, for long-term tailings stabilization and disposal.

The purpose of the tailings-reclamation action (either the Atlas proposal or an alternative) considered in this FEIS is to minimize the potential for environmental and public health impacts posed by the existing tailings pile. This purpose can be satisfied only by appropriate reclamation of the tailings pile, either at the Moab site or an alternate site.

1.3 HISTORY AND CURRENT STATUS OF THE MOAB MILL FACILITY AND OPERATIONS

The Atlas Moab Mill is located on the west bank of the Colorado River about 5 km (3 miles) northwest of Moab. The property and facilities were originally owned by the Uranium Reduction Company that was acquired by Atlas Corporation in 1962. Atlas owns approximately 160 ha (400 acres) including the approximately 80 ha (200 acres) on which the mill and tailings are located. Atlas activities at the Moab Mill site are covered by the NRC Source Material License SUA-917, which was renewed in 1988. The mill ceased ore milling operations in 1984. The principal Atlas and NRC documents supporting the source material license are listed in Appendix E.

Initial tailings pond construction was completed in 1956, and, with the exception of brief periods, tailings were disposed in the pond continuously from initial start-up in October 1956 until the mill ceased operations and was placed on standby status in 1984. The tailings pile has been maintained since that date under various conditions of the Atlas Source Material License. The pile has five embankments that were raised to their present elevation of 1237 m (4058 ft) above mean sea level (amsl) after the 1979 license renewal. A 5.5-m (18-ft) raise in embankment elevation to a projected final elevation of 1242 m (4076 ft) was reviewed and approved under License Amendment No. 7 dated June 30, 1982. However, the embankment raise was never initiated, because the added capacity was not needed when the mill subsequently entered a long-term shutdown status.

During early operations, Atlas utilized an acid leach process for uranium milling. At that time, lime was added to the mill tailings to help neutralize the tailings. In 1961, an alkaline leach process was initiated. In 1967, a new acid leach circuit was installed and, for a period of time, both the acid circuit and an alkaline circuit were operated. Up to this point, as much as 4921 L/m (1300 gpm) had been taken from the Colorado River under Atlas' Water Rights, used in the process, treated, and then discharged back into the Colorado River (Atlas 1973). Around 1974, Atlas began modifying various process circuits to reduce the total amount of water used in the milling and processing operations to eliminate the direct discharge of waste water into the Colorado River. After these modifications, which included recycling process waters, approximately 492 L/m

(130 gpm) of river water were used for the mill. At this reduced rate, evaporation and seepage from the tailings pile were adequate to handle the waste water stream and there was no need to directly discharge waste water into the Colorado River (Atlas 1973). From 1982 through 1984, only an acid leach process was used with no neutralization of process water because of the process water recycling practices.

The NRC required Atlas to initiate a groundwater detection monitoring program and a compliance monitoring program in 1988, in accordance with the revisions to Appendix A of 10 CFR Part 40. As a result of these monitoring programs, Atlas was required to develop and initiate a groundwater corrective action plan (CAP) designed to bring the identified groundwater contamination to within standards established in the license and NRC's regulations.

Two site-specific conditions discovered during previous hydrogeological characterization efforts restricted the number and type of groundwater corrective action measures that could be applied at the site. The occurrence of brine in the lower portion of the alluvial aquifer presented limitations on the amount of groundwater pumping that could be accomplished in the shallower portions of the aquifer, without drawing the brine into the groundwater collection wells. In addition, the fine-grained nature of the shallower portion of the alluvium presented limitations to effective recovery of contaminated ground water. These two circumstances led NRC to approve a CAP that focused on reducing the seepage from the tailings by removing the free water surface and dewatering the tailings. A CAP that included an enhanced evaporation system, a toe drain system, and a series of dewatering wells in the tailings was approved in July 1989. The dewatering wells were approved as a pilot project, with the stipulation that Atlas would need to propose additional dewatering measures, such as wick drains in the tailings, if the dewatering wells proved ineffective.

The CAP was modified in 1993 to discontinue the enhanced evaporation system, because the free water surface was reduced to the point that it could not be pumped and the toe drains were deleted from the license because they had ceased collecting water. The license was also amended at a later time to allow the disposal of radioactive contaminated solid waste in the south sump pit of the toe drain system. The dewatering wells remained in operation, but have shown a decrease in effectiveness through time. Approximately 6,515,000 L (1,721,000 gals) of tailings water were removed from the tailings through the dewatering wells in 1992, and approximately 2,419,000 L (639,237gal) in 1998, demonstrating a reduction in the system's effectiveness because of the corresponding reduction in pressure head levels in the pile.

NRC notified Atlas (NRC 1996c) that a revised CAP would be needed to address groundwater contamination in the alluvial aquifer. NRC considers the revision of the CAP as a separate, independent licensing action from the reclamation approval, because the cleanup of contaminated groundwater must be addressed whether the tailings are reclaimed on site or relocated. Also, the feasibility of engineering remedies that could be applied to groundwater cleanup would not be impacted by the location of the tailings, since the constraints limiting groundwater cleanup are aquifer characteristics unique to the site. The revised CAP will address what can be done to cleanup contamination currently in the groundwater and must be developed regardless of whether the tailings are reclaimed on site or moved to an alternate site.

The CAP and monitoring programs are mandatory by licence conditions 17 and 55, which describe the groundwater program for the site. The groundwater program includes the establishment of groundwater quality standards, point-of-compliance wells, a background well, sampling frequency, groundwater sampling points, and selected constituents for which the groundwater was to be analyzed. The projected date for completion of all groundwater corrective actions, as specified in license condition 55 is December 1998, but this date was not achieved and will need to be changed after Atlas submits the revised CAP.

In the DEIS, the NRC did not conduct a detailed analysis of the groundwater system. Instead, the DEIS presents an assessment of the impacts on the Colorado River from existing contamination in the aquifer at the site. This assessment was based on actual data measured by the State of Utah in the groundwater seep located in the mouth of Moab Wash. No credit was given for completion of the currently required groundwater program, or the cleanup of groundwater to established Federal standards. Because of this, the DEIS presented a conservative, bounding assessment of the environmental impacts. The DEIS reached the conclusion that the impacts to the Colorado River from the existing groundwater contamination were acceptable. Once the tailings were capped, and the seepage of contamination significantly reduced, the groundwater contaminant levels would lessen, and situation in the Colorado River would improve.

Since the publication of the DEIS, there continues to be a concern that NRC is not addressing the cleanup of current groundwater contamination. As discussed above, there is currently an NRC required groundwater cleanup program in the Atlas license. However, because that program has not been effective in cleaning up the current level of groundwater contamination, the NRC has required Atlas to revise the current groundwater corrective action program and identify ways to accelerate cleanup of current day contamination. As also discussed above, that cleanup must be undertaken regardless of whether the tailings are reclaimed on site, or are relocated to an alternate site. Thus any revision to the groundwater cleanup program is independent of the decision concerning on-site reclamation of the tailings.

The action that is the subject of this FEIS (tailings reclamation) considers, among other things, the ability of the Atlas proposal to keep groundwater within standards over the next 1000 years. This is accomplished by separately examining the effects the proposed action would have on the groundwater system, without applying additional groundwater corrective action measures. The application of active groundwater cleanup measures are limited in time and could not be relied upon to keep the groundwater within standards for the 1000 year design life. The Atlas proposal must show that groundwater would ultimately achieve and remain within standards. If a proposed action would rely on a short-term groundwater corrective action to achieve standards, but could not show that the groundwater continued to meet the standards over the reclamation design life, then the action could not be approved.

The application of groundwater cleanup measures are viewed as a means accelerating the time needed to achieve compliance with the groundwater standards, if the Atlas proposal can demonstrate that groundwater constituent concentrations would not rise above standards once the

standards were met. Accelerating the time for groundwater to achieve standards is applied independently of the engineering construction of the approved reclamation design.

Atlas has conducted cleanup of windblown tailings and other contaminated soils in several areas on the site. These areas were along the west side of State Route (S.R.) 279, between the tailings pile and the highway, an area northwest of the tailings pile, and an area of about 3 ha (7 acres) southeast of the tailings pile. Cleanup involved excavating the windblown tailings and contaminated soils and placing them on the tailings pile. Additional cleanup of on-site and off-site contaminated windblown materials will be conducted as part of the reclamation activities.

1.4 FEDERAL AND STATE AUTHORITIES, REGULATIONS, AND PERMITS

U.C. Uranium Milling
Title II of UMTRCA, as amended, authorizes the NRC to enforce decontamination, decommissioning, and reclamation standards on new licenses or relicensing actions for uranium mill and mill tailings sites. NRC regulations in Appendix A to 10 CFR Part 40 establish criteria for the technical aspects, finance, ownership, and long-term site surveillance relating to the siting, operation, decontamination, decommissioning, and reclamation of uranium milling facilities. Each site-specific licensing decision is to be based on the criteria, taking into account public health and safety and the environment. A detailed discussion of the applicability of these criteria to the Atlas proposal is provided in Appendix A of the final TER (NRC 1997).

Appendix A to 10 CFR Part 40 provides flexibility in the NRC regulatory program in several ways. It allows licensees to propose alternatives to the specific requirements contained in the appendix as long as an equivalent level of protection of public health is provided. It also requires that licensing decisions take into consideration the economic costs involved (this requirement originates in the Atomic Energy Act of 1954, as amended). One of the reasons for this flexibility was the recognition that some of the regulations in Appendix A could not be applied to existing sites in the same manner as applied to proposed sites. The Generic Environmental Impact Statement on Uranium Milling, NUREG-0706 (1980), explicitly discussed this. As a result, the criteria in Appendix A to 10 CFR Part 40 that identify goals, as opposed to specific numerical requirements, are applied to existing sites with the recognition that the goal may not be met to the extent that it would for a new proposed site.

In the case of the Atlas proposal for tailings reclamation at the Moab site, NRC staff reviewed the licensee's proposed design and cover materials for the reclaimed tailings pile to independently determine whether the licensee has acceptably demonstrated that its proposal would meet the applicable criteria. Results of that review are documented in the final TER (NRC 1997). Regulations state that NRC will approve a reclamation plan proposed by a licensee if the NRC evaluation documented in the final TER demonstrates compliance with the Appendix A criteria and if the environmental impacts are appropriately considered, in conformance with 10 CFR Part 51, and found to be acceptable.

Before the site can be transferred to DOE or the State of Utah for long-term care, or before any part of it can be released for unrestricted use, the licensee must demonstrate that groundwater has been cleaned up to acceptable standards, in addition to the soil cleanup and tailings reclamation. Atlas is currently implementing an NRC-required groundwater cleanup program, which requires Atlas to dewater the tailings using a pump and evaporate system, cap the tailings to reduce the source of contamination, and allow the groundwater to naturally flush to the steady-state conditions.

As part of compliance with Appendix A of 10 CFR Part 40, the licensee may propose alternate concentration limits (ACLs) as groundwater protection standards that present no significant hazard to the environment and public health. NRC regulations state that an ACL will be approved if NRC, after considering practicable corrective actions, determines that the proposed ACL is as low as reasonably achievable (ALARA) and that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the ACL is not exceeded. Before approving ACLs, NRC must consider numerous factors that are listed in Appendix A to 10 CFR Part 40. Atlas is in the process of preparing an ACL application for its proposed reclamation.

The Atlas proposal would require a number of permits, licenses, or approvals from various agencies in addition to the NRC (listed in Table 1.4-1). NRC regulations in 10 CFR Part 20 Subpart D specify radiation dose limits for individual members of the public during reclamation. No unrestricted area may have a radiation level that would result in a dose from external sources to an individual exceeding 0.02 mSv (0.002 rem) in an hour, 0.5 mSv (0.05 rem) in a year, or a total effective dose equivalent of 1 mSv (0.10 rem) in a year. The licensee is required to perform monitoring or calculations needed to demonstrate compliance. The Utah Division of Radiation Control, Department of Environmental Quality (DEQ), has jurisdiction concurrent with NRC over non-radiological groundwater constituents.

1.5 RESULTS OF SCOPING AND COMMENTS ON THE DRAFT EIS

1.5.1 The Scoping Process

In July 1993, NRC issued an EA evaluating the licensee's revised reclamation plan for on-site disposal of mill tailings. Also in July 1993, the NRC published a finding of no significant impact (FONSI) in the *Federal Register* in anticipation of approving the revised reclamation plan. NRC received more than 20 letters opposing the proposed action and wanting additional evaluation and consideration of issues. As a result, NRC rescinded the FONSI by a *Federal Register* notice in October 1993, decided to prepare an EIS, and requested additional information from Atlas to support NRC's technical and environmental evaluation of the Atlas proposal. On March 30, 1994, the NRC published in the *Federal Register* (*Fed. Reg.* 59:14912) a notice of intent (NOI) to prepare an EIS for the proposed reclamation of tailings and to conduct scoping for the EIS. The alternatives identified in the NOI were (1) on-site reclamation (the licensee's proposal), (2) off-site disposal at an alternate site, and (3) no action. The scoping process for the DEIS was conducted in accordance with 10 CFR Part 51, which contains the NRC requirements for implementing the regulations of the Council on Environmental Quality (CEQ) under NEPA. A public scoping meeting was held at Starr

EXHIBIT D



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

September 29, 1999

RECEIVED

FOIA/PA 99-377

Mr. Christopher Arend
Earthjustice Legal Defense Fund
1631 Glenarm Place, Suite 300
Denver, CO 80202-4303

Dear Requester:

We received your Freedom of Information Act/Privacy Act (FOIA/PA) request on 9-28-99.

Your request has been assigned the following reference number that you should use in any future communications with us about your request: **FOIA/PA 99-377**.

Based on your description of the records you are seeking, we estimate completion of your request will take 10-20 workdays (2-4 weeks). We will advise you of any change in the estimated time to complete your request.

For purposes of assessing fees in accordance with our regulations (10 CFR 9.33), we have placed your request in the following category: Non-Excepted.

If applicable, you will be charged appropriate fees for Search and Duplication of records.

A sheet has been enclosed that explains in detail the fee charges that may be applicable. **Please do not submit any payment unless we notify you to do so.**

You requested that fees be waived for your request and I have determined that your request for a fee waiver does not provide sufficient information under 10 CFR 9.41 for the NRC to make a determination to waive fees. A copy of the factors which must be addressed is enclosed.

The following person is the FOIA/PA Officer who has been assigned responsibility for your request: **Nina Pugh 301-415-6873**.

If you have questions on any matters concerning your FOIA/PA request please feel free to contact the assigned FOIA/PA Officer or me, **301-415-6874**.

Sincerely,

A handwritten signature in cursive script, reading "Carol Ann Reed", is written over the typed name.

Carol Ann Reed
Freedom of Information and
Privacy Act Officer
Office of the Chief Information Officer

Enclosures:
Incoming Request
Explanation of Fees
Fee Waiver Justification Requirements

EXHIBIT E

NRC FORM 509

(5-93)



U. S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB

5130-0043

EXPIRES: 5-31-96

REQUEST NUMBER

FOIA-99-377

DATE

OCT 18 1999

STATEMENT OF ESTIMATED FEES FOR FREEDOM OF INFORMATION ACT (FOIA) REQUEST

REQUESTER

Christopher Arend

NRC CONTACT

Lisa Pugh

TELEPHONE

(301) 415-4873

Pursuant to the NRC's regulations, 10 CFR 9.40, 52 FR 49350, the NRC notifies a requester when estimated applicable fees exceed \$25.00 or a limit stated in an FOIA request. The estimated fees for processing your FOIA request are noted below. If you wish to re-scope your request to reduce fees, you may telephone the NRC contact identified above to discuss re-scoping the request. Otherwise, please provide a written response on required action noted below. If the NRC does not receive notice from you on re-scoping your request or the required written response within 20 days from the date of this notice, the NRC will presume that you have no further interest in NRC processing your request and will close the file on your request.

ESTIMATED FEES

SEARCH	\$ 183.26 (3.5 hrs per search @ \$36.93 per hr. (2 hrs @ no charge) 13 hrs. cum. search @ \$18.00 per hr.)
REVIEW	\$ N/A
DUPLICATION *	\$ 200.00
TOTAL	\$ 383.26

* Duplication estimate is based on the assumption that you want copies of disclosed records mailed directly to you. If you prefer, the NRC will make disclosed records available at the NRC Public Document Room, Washington, D.C., or at a Local Public Document Room for inspection free of charge and copying at fees charged at those locations. Please note your preference in the Response section below.

Please note the comments provided on the attached NRC Form 509A.

For fee purposes, the NRC has aggregated the multiple requests identified above under the presumption that the requested records could have been the subject of a single request.

X Your request for a waiver or reduction of fees does not provide sufficient information under 10 CFR 9.41 for the NRC to make a determination to waive or reduce fees. If you want the NRC to consider this matter further, please submit a written request pursuant to 10 CFR 9.41 within 10 working days from the receipt of this notice.

REQUIRED ACTION

Please agree in writing to pay fees as high as estimated by signing and dating the Response section of this form and returning the form to the NRC contact identified above at the U.S. Nuclear Regulatory Commission, Washington, D.C., 20555-0001, within 20 days from the date of this notice.

Please provide an advance payment of the estimated fees by submitting a check made payable to the U.S. Nuclear Regulatory Commission within 20 days from the date of this notice. Mail the check to the NRC contact identified above, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Any overpayment of fees will be refunded to you.

SIGNATURE - CHIEF, FOIA/LPDR BRANCH

DATE

Lisa L. Pugh

10/17/99

RESPONSE

As required above, I agree to pay fees as high as estimated, or enclose advance payment. I agree to pay estimated search fees even if the NRC conducts an unsuccessful search for responsive records or determines records located are exempt from disclosure. I prefer that copies of disclosed records be provided as stated below.

☐

MAILED TO ME BY THE
FOIA/LPDR BRANCH

☐

PLACED IN THE NRC
PUBLIC DOCUMENT ROOM

☐

PLACED IN THE LOCAL
PUBLIC DOCUMENT ROOM

SIGNATURE - FOIA REQUESTER

DATE

NRC FORM 509 (5-93)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 1 HOUR.
FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH
(MNB8 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK
REDUCTION PROJECT (3150-0043), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

Factors Which Must Be Addressed When
Submitting A FOIA Fee Waiver Request

10 CFR 9.41(a)(2) and (b)

(a)(2) Each request for a waiver or reduction of fees must be addressed to the Director, Division of Freedom of Information and Publications Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(b) A person requesting the NRC to waive or reduce search, review, or duplication fees shall:

(1) Describe the purpose for which the requester intends to use the requested information;

(2) Explain the extent to which the requester will extract and analyze the substantive content of the agency record;

(3) Describe the nature of the specific activity or research in which the agency records will be used and the specific qualifications the requester possesses to utilize information for the intended use in such a way that it will contribute to public understanding;

(4) Describe the likely impact on the public's understanding of the subject as compared to the level of understanding of the subject existing prior to disclosure;

(5) Describe the size and nature of the public to whose understanding a contribution will be made;

(6) Describe the intended means of dissemination to the general public;

(7) Indicate if public access to information will be provided free of charge or provided for an access fee or publication fee; and

(8) Describe any commercial or private interest the requester or any other party has in the agency records sought.

EXHIBIT F



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DEC 20 1999

RECEIVED DEC 20 1999

Ms. Marie A. Kirk
Earth Justice Legal Defense Fund
1631 Glenarm Place, Suite 300
Denver, CO 80202-4303

IN RESPONSE REPLY TO
FOIA-99-377

Dear Ms. Kirk:

This letter is in response to your letter to Ms. Nina Pugh, dated October 27, 1999, regarding your Freedom of Information Act request, FOIA-99-377, requesting records relating to the bankruptcy of the Atlas Corporation. In your letter you provided additional information to the Nuclear Regulatory Commission (NRC) to support your request for a waiver of fees for the processing of your request. In your letter, you responded to fee waiver criteria (1)-(8) as requested.

I have determined that your request for a waiver of fees cannot be favorably considered because the NRC is prohibited by law (5 U.S.C. 504) from funding "parties intervening in regulatory or adjudicatory proceedings" before the NRC.

This determination may be appealed to the Secretary of the Commission within 30 days of the receipt of this letter. Any such appeal must be in writing addressed to the Secretary of the Commission, Washington, DC 20555, and should clearly state on the envelope and in the letter that it is an "Appeal to an Initial Fee Waiver Denial."

Sincerely,

A handwritten signature in cursive script that reads "Carol Ann Reed".

Carol Ann Reed
Freedom of Information Act and
Privacy Act Officer

EXHIBIT G



EARTHJUSTICE
LEGAL DEFENSE FUND

BOZEMAN, MONTANA DENVER, COLORADO HONOLULU, HAWAII
JUNEAU, ALASKA NEW ORLEANS, LOUISIANA SAN FRANCISCO, CALIFORNIA
SEATTLE, WASHINGTON TALLAHASSEE, FLORIDA WASHINGTON, D.C.

January 13, 2000

File: 812

FOIA/PA REQUEST

Case No: 2000-002A
Date Rec'd: 1-18-00
Action Off: Pugh
Related Case: _____

Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Appeal to an Initial Fee Waiver Denial

To Whom It May Concern:

This letter constitutes an appeal of an initial fee waiver denial in case number FOIA-99-377. As set forth below, the Freedom of Information Act and Privacy Officer has erroneously denied the fee waiver. The NRC does not dispute that Earthjustice has demonstrated that the request is in the "public interest" under both FOIA and NRC regulations. Once a requester satisfies the "public interest" test, a fee waiver is mandatory. Therefore, denial of the fee waiver should be reversed.

1. Background

On September 22, 1999, Earthjustice Legal Defense Fund requested documents under FOIA on behalf of a number of organizations who are concerned about the NRC's regulation of the Moab uranium mill tailings site, formerly owned by the Atlas Corporation ("Atlas"). These organizations include two conservation groups, a local government, and an association of river guides. Members of all of these organizations use and enjoy the stretch of Colorado River affected by pollution from the Atlas pile and are concerned about the government's cleanup plans and, specifically, how cleanup will be paid for. The initial FOIA request asked for

all documents, correspondence and other material, including written, electronic and verbal communications, phone logs, etc. located in your records from September 1998 through September 1999 related to the Atlas Corporation's bankruptcy status and proceedings as well as any information on the financial status of the Atlas Corporation

See Exhibit A. In that letter, Earthjustice specifically requested a waiver of fees associated with the request because:

These documents will be used to increase the public understanding of government activities related to finalizing and funding a reclamation plan for the Atlas Mill Tailings pile while the Atlas Corporation is undergoing bankruptcy proceedings.

See id.

The total estimated fees associated with the request came to \$383.26. See Exhibit B. The NRC processed the fee waiver request and determined that more information was needed to make a determination to waive fees under 10 C.F.R. § 9.41. See Exhibit C. Earthjustice timely responded to the request for more information, and in a four-page letter, explained in detail how the FOIA request met the fee waiver requirements of 10 C.F.R. § 9.41. See Exhibit D. Despite this timely and detailed showing in response to NRC's request, in a letter dated December 20, 1999, the NRC denied the fee waiver. See Exhibit E. The denial was *not* based on any alleged failure to meet the factors of 10 C.F.R. § 9.41. Rather, the sole reason given for the denial was that "the NRC is prohibited by law (5 U.S.C. 504) from funding 'parties intervening in regulatory or adjudicatory proceedings' before the NRC." See Exhibit E.

Before this FOIA request was made, in a separate matter Earthjustice filed a Request for Hearing and Petition for Leave to Intervene on behalf of the Grand Canyon Trust and other parties at the NRC on January 27, 1998. This petition alleged a number of shortcomings in the NRC's proposed amendment to the Atlas license to cap the uranium tailings in place next to the Colorado River. These parties are the same parties that Earthjustice represents in its FOIA request in case number FOIA-99-377. Although the intervention petition was filed nearly a year ago, the petition has not yet been granted.

2. Legal Standards

A fee waiver is generally available to any requester upon a showing that the request is in the public interest. See 5 U.S.C. § 554(A)(4)(iii). In keeping with FOIA's intent to increase access to information, "FOIA requires the federal government to furnish documents to public interest groups free of charge. . . if the disclosure of the information is in the public interest." See Friends of the Coast Fork v. U.S. Dep't of the Interior, 110 F.3d 53, 54 (9th Cir. 1997). Such disclosure is in the public interest if "it is likely to contribute significantly to public understanding of the operations or activities of the government and is not primarily in the commercial interest of the requester." See 5 U.S.C. § 554(A)(4)(iii). The NRC has promulgated regulations, which set forth a set of eight questions for requesters and a six-factor balancing test for the agency, to assist the agency in evaluating whether a request is in the public interest. See 10 C.F.R. § 9.41(b)-(d). Once a requester meets its burden of showing that the request is in the public interest, a fee waiver is mandatory. See Friends of the Coast Fork, 110 F.3d at 55; 5 U.S.C. § 554(A)(4)(iii) ("Documents *shall* be furnished without any charge . . . if disclosure of the information is in the public interest.") (Emphasis added).

3. The Denial of the Fee Waiver Violates FOIA

The NRC's decision to deny the fee waiver requested in this case was erroneous and clearly contrary to FOIA. The NRC in its denial letter did not allege that Earthjustice failed to meet the "public interest" test in this case. Rather, the sole reason for the denial was that "the

NRC is prohibited by law (5 U.S.C. 504) from funding 'parties intervening in regulatory or adjudicatory proceedings' before the NRC." See Exhibit E.

Once a "public interest" showing is made, a fee waiver is required. See Friends of the Coast Fork, 110 F.3d at 55. Here, Earthjustice has clearly made such a showing. Earthjustice and its clients have participated in public meetings, education and outreach, and discussions related to the Atlas site. Earthjustice represents a wide range of individuals and organizations who use and depend on the Colorado River near Moab and have a keen interest in the cleanup of the Moab millsite and nearby waters. In particular, Earthjustice and its clients are concerned about the availability of adequate funding for a cleanup. Earthjustice and its clients plan to distribute the information obtained in the FOIA request through a wide network of internet sites, newsletters, meetings, phone calls, and other means to members of the public, government, and media. Earthjustice has amply demonstrated that it plans to use the documents to increase public understanding of the financial issues related to cleanup of the Moab site and the protection of the Colorado River. The NRC does not dispute that Earthjustice is entitled to a fee waiver under FOIA and the NRC's FOIA regulations.

Despite the clear requirements of FOIA, the NRC stated that it would not grant the fee waiver due to a provision of 5 U.S.C. 504, which provides that NRC must not allocate funds to "pay the expenses of, or otherwise compensate, parties intervening in regulatory or adjudicatory proceedings." See 5 U.S.C. § 504. Section 504 is not part of FOIA, but rather is a provision of the Equal Access to Justice Act concerning the award of attorneys' fees and costs. Under the plain language of the statutes, section 504 does not apply in this case.

There is no question that FOIA, 5 U.S.C. § 554(A)(4)(iii), sets forth the relevant test for a fee waiver for a FOIA request. The only question is whether the language of section 504 somehow overrides FOIA's plain requirements. A statute's plain meaning can be overridden only by a showing of clear legislative intent. See Charles v. Charles, 788 F.2d 961, 966 (3rd Cir. 1986). Nothing in FOIA provides that a fee waiver is unavailable if a requester is in litigation with the agency. Likewise, nothing in NRC regulations says that a fee waiver will be denied if the requester has intervened in an agency proceeding.

Moreover, nothing in section 504 contains any language embodying the "clear legislative intent" that would be necessary to override FOIA's fee waiver provisions. Section 504 is a provision of the Equal Access to Justice Act, which deals with the awarding of costs and attorneys' fees – not FOIA requests. That provision states only that the agency shall not "pay the expenses of" or "otherwise compensate" parties intervening in its regulatory or adjudicatory proceedings. To the best of the requesters' knowledge, no court or agency has ever deemed a FOIA fee waiver to be "payment" or "compensation." Indeed, such an argument stretches EAJA well beyond its reach.

In passing FOIA's fee waiver provisions, Congress did not view the waiver as a means of "compensation" or "payment" to certain requesters. Rather, Congress passed the fee waiver as a means to increase public access to information about government and specifically recognized the importance nonprofit groups (such as Earthjustice) in achieving that goal:

Congress explicitly recognized the importance and the difficulty of access to governmental documents for such typically under-funded organizations and individuals when it enacted the "public benefit" test for FOIA fee waivers. This waiver provision was added to FOIA in an attempt to prevent government agencies from using high fees to discourage certain types of requesters and requests in a clear reference to requests from journalists, scholars and, most importantly for our purposes, nonprofit public interest groups. Congress made clear its intent that fees should not be utilized to discourage requests or to place obstacles in the way of such disclosure, forbidding the use of fees as "toll gate on the public access road to information."

Better Government Association v. Department of State, 780 F.2d 86, 94 (D.C. Cir. 1986) (citations omitted). Earthjustice does not seek payment or compensation. Rather, Earthjustice seeks a fee waiver, which is generally available to anyone who makes the required showing. As Earthjustice has explained in detail, Earthjustice and its clients intend to use the FOIA documents to increase public understanding of the Moab millsite and will not benefit commercially from the dissemination of the information. Once Earthjustice made this showing, the fee waiver should have been granted as a matter of law.

The fact that Earthjustice has intervened in a regulatory proceeding against the NRC is irrelevant in this case. In this case, Earthjustice's FOIA request, aimed at uncovering more information about the funding of the Moab millsite cleanup, rests on an entirely separate purpose of educating interested persons and the public generally about key developments in the cleanup. Earthjustice and its clients are uniquely situated to carry out this goal.

Finally, the NRC's apparent belief that intervention in a regulatory proceeding automatically negates an organization's chance for a FOIA fee waiver is contrary to public policy and to FOIA. Non-profit environmental groups who challenge the NRC in administrative proceedings are often the most concerned about the NRC's licensing activities and best equipped to educate the public about them. Indeed, the time when a government activity spurs a citizens' challenge or lawsuit may be the very time that the public's interest and need to know are the greatest. The NRC's position in this case would effectively impose a barrier to obtaining information, against the citizens who may be the most interested in its operations, at a time when public concern is at its highest. Congress clearly did not intend such a result.

Executive Director
January 13, 2000
Page 5

4. Conclusion

Congress has said unequivocally that if any requester demonstrates that a FOIA request is in the public interest, there must be a waiver of fees. For this reason and the reasons set forth above, the initial fee waiver denial should be reversed.

Sincerely,

A handwritten signature in cursive script that reads "Marie A. Kirk".

Marie A. Kirk

MAK/II

EXHIBIT E

NRC FORM 509
(5-93)

U. S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB
5130-0043
EXPIRES: 5-31-96

REQUEST NUMBER

FOIA-99-377

DATE

OCT 18 1999

STATEMENT OF ESTIMATED FEES FOR
FREEDOM OF INFORMATION ACT (FOIA) REQUEST

REQUESTER

NRC CONTACT

TELEPHONE

Christopher Arend

Lisa Rugh

(301) 415-6873

Pursuant to the NRC's regulations, 10 CFR 9.40, 52 FR 49350, the NRC notifies a requester when estimated applicable fees exceed \$25.00 or a limit stated in an FOIA request. The estimated fees for processing your FOIA request are noted below. If you wish to re-scope your request to reduce fees, you may telephone the NRC contact identified above to discuss re-scoping the request. Otherwise, please provide a written response on required action noted below. If the NRC does not receive notice from you on re-scoping your request or the required written response within 20 days from the date of this notice, the NRC will presume that you have no further interest in NRC processing your request and will close the file on your request.

ESTIMATED FEES

SEARCH	\$183.26 (3.5 hrs. per search @ \$36.93 per hr. (2 hrs @ no charge) 13 hrs. clinical search @ \$18.00 per hr.)
REVIEW	\$ N/A
DUPLICATION *	\$ 200.00
TOTAL	\$ 383.26

* Duplication estimate is based on the assumption that you want copies of disclosed records mailed directly to you. If you prefer, the NRC will make disclosed records available at the NRC Public Document Room, Washington, D.C., or at a Local Public Document Room for inspection free of charge and copying at fees charged at those locations. Please note your preference in the Response section below.

Please note the comments provided on the attached NRC Form 509A.

For fee purposes, the NRC has aggregated the multiple requests identified above under the presumption that the requested records could have been the subject of a single request.

X Your request for a waiver or reduction of fees does not provide sufficient information under 10 CFR 9.41 for the NRC to make a determination to waive or reduce fees. If you want the NRC to consider this matter further, please submit a written request pursuant to 10 CFR 9.41 within 10 working days from the receipt of this notice.

REQUIRED ACTION

Please agree in writing to pay fees as high as estimated by signing and dating the Response section of this form and returning the form to the NRC contact identified above at the U.S. Nuclear Regulatory Commission, Washington, D.C., 20555-0001, within 20 days from the date of this notice.

Please provide an advance payment of the estimated fees by submitting a check made payable to the U.S. Nuclear Regulatory Commission within 20 days from the date of this notice. Mail the check to the NRC contact identified above, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Any overpayment of fees will be refunded to you.

SIGNATURE - CHIEF, FOIA/LPDR BRANCH

DATE

Lisa L. Rugh

10/17/99

RESPONSE

As required above, I agree to pay fees as high as estimated, or enclose advance payment. I agree to pay estimated search fees even if the NRC conducts an unsuccessful search for responsive records or determines records located are exempt from disclosure. I prefer that copies of disclosed records be provided as stated below.

☐ MAILED TO ME BY THE
FOIA/LPDR BRANCH

☐ PLACED IN THE NRC
PUBLIC DOCUMENT ROOM

☐ PLACED IN THE LOCAL
PUBLIC DOCUMENT ROOM

SIGNATURE - FOIA REQUESTER

DATE

Factors Which Must Be Addressed When
Submitting A FOIA Fee Waiver Request

10 CFR 9.41(a)(2) and (b)

(a)(2) Each request for a waiver or reduction of fees must be addressed to the Director, Division of Freedom of Information and Publications Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(b) A person requesting the NRC to waive or reduce search, review, or duplication fees shall:

(1) Describe the purpose for which the requester intends to use the requested information;

(2) Explain the extent to which the requester will extract and analyze the substantive content of the agency record;

(3) Describe the nature of the specific activity or research in which the agency records will be used and the specific qualifications the requester possesses to utilize information for the intended use in such a way that it will contribute to public understanding;

(4) Describe the likely impact on the public's understanding of the subject as compared to the level of understanding of the subject existing prior to disclosure;

(5) Describe the size and nature of the public to whose understanding a contribution will be made;

(6) Describe the intended means of dissemination to the general public;

(7) Indicate if public access to information will be provided free of charge or provided for an access fee or publication fee; and

(8) Describe any commercial or private interest the requester or any other party has in the agency records sought.

EXHIBIT F



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DEC 20 1999

RECEIVED DEC 20 1999

Ms. Marie A. Kirk
Earth Justice Legal Defense Fund
1631 Glenarm Place, Suite 300
Denver, CO 80202-4303

IN RESPONSE REPLY TO
FOIA-99-377

Dear Ms. Kirk:

This letter is in response to your letter to Ms. Nina Pugh, dated October 27, 1999, regarding your Freedom of Information Act request, FOIA-99-377, requesting records relating to the bankruptcy of the Atlas Corporation. In your letter you provided additional information to the Nuclear Regulatory Commission (NRC) to support your request for a waiver of fees for the processing of your request. In your letter, you responded to fee waiver criteria (1)-(8) as requested.

I have determined that your request for a waiver of fees cannot be favorably considered because the NRC is prohibited by law (5 U.S.C. 504) from funding "parties intervening in regulatory or adjudicatory proceedings" before the NRC.

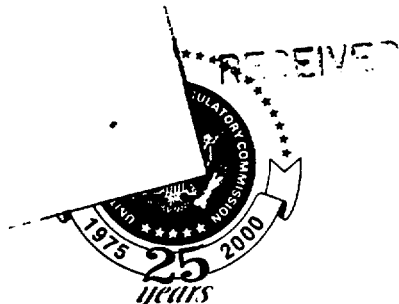
This determination may be appealed to the Secretary of the Commission within 30 days of the receipt of this letter. Any such appeal must be in writing addressed to the Secretary of the Commission, Washington, DC 20555, and should clearly state on the envelope and in the letter that it is an "Appeal to an Initial Fee Waiver Denial."

Sincerely,

A handwritten signature in cursive script, reading "Carol Ann Reed", is positioned above the typed name.

Carol Ann Reed
Freedom of Information Act and
Privacy Act Officer

EXHIBIT H



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

March 2, 2000

OFFICE OF THE
SECRETARY

IN RESPONSE REFER
TO FOIA 2000-002A
FOIA (99-377)

Marie A. Kirk, Esq.
Earth Justice Legal Defense Fund
1631 Glenarm Place, Suite 300
Denver, CO 80202-4303

Dear Ms. Kirk:

This responds to your letter of January 13, 2000, in which you appealed the agency's December 20, 1999 denial by Ms. Carol Ann Reed of your request for a fee waiver for records requested in your Freedom of Information Act (FOIA) request of September 22, 1999. This is to inform you that, pursuant to 10 C.F.R. § 9.29 (b) (1999), I hereby sustain the decision to deny your fee waiver request. I have made this decision after careful review of the record. Your request does not meet the requirements of 10 C.F.R. § 9.41 (1999) regarding requests for waiver or reduction of fees.

Your initial fee waiver request was denied citing 5 U.S.C § 504 because the denying official was under the assumption that your organization had already been granted intervenor status in the Matter of Atlas Corporation, Docket No. 40-3453-MLA-3 at the time of your initial FOIA request. However, this is not the case as the Earth Justice petition to intervene was not granted until February 17, 2000. Title 5 U.S.C. § 504 prohibits the agency from funding parties that intervene in regulatory or adjudicatory proceedings before the Commission. For any future FOIA requests, please be advised that your assertion that 5 U.S.C. § 504 does not override FOIA's fee waiver provisions, is incorrect.

Although generally, an agency may not look into reasons for a FOIA request, when determining whether or not to grant a fee waiver request, the agency may look at the identity of the requester and the purpose for which the request is being made. See, U.S. Dep't of Justice v. Reporter's Committee for Freedom of the Press, 489 U.S. 749, 771 (1989). Consistent with the court's position in Reporter's Committee, since the FOIA recognizes categories of requesters for the purpose of assessing fee waiver requests based on their identity and/or intended use of the information requested, the Commission may look to see if the information requested is to be used in the requester's capacity as an intervenor. If the intervenor is requesting records that would assist them in their intervention in agency proceedings and the Commission waived the fees for providing such records, the agency would be violating the statutory prohibition against funding intervenors in the Commission's proceedings.

Since you were not granted intervenor status at the time of your September 22, 1999, FOIA request, the criteria set forth at 10 C.F.R. § 9.41 (1999) are applicable to your FOIA request and reasons in support of a fee waiver. Upon review of both your October 27, 1999 letter

providing information requested by the Commission's FOIA office, and your January 13, 2000 correspondence offering your views concerning the "public interest" standard being met, I have concluded that the reasons you have offered do not satisfy the requirements of the statutory fee waiver standard, specifically, whether release of the information "is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the Government and not be primarily in the commercial interest of the requester." 10 C.F.R. § 9.41 (c) (1999).

I considered the following factors in my determination as to whether your request satisfies this statutory standard: (1) how the subject of the requested agency records concerns "the operations or activities of the federal government"; (2) how the disclosure is likely to contribute to an understanding of government operations or activities; (3) the extent to which the requester has a commercial interest that would be furthered by the requested disclosure; and (4) whether any such commercial interest outweighs the public interest in disclosure. See, 10 C.F.R. § 9.41 (d) (1999).

In reaching my conclusion on your appeal, I have analyzed the above factors as they apply to the circumstances of your request and find that your request for a fee waiver does not satisfy all of the relevant factors. The subject matter of the information you have requested is as follows:

All documents, correspondence and other material, including written, electronic and verbal communications, phone logs, etc. located in your records from September 1998 through September 1999 related to Atlas Corporation's bankruptcy status and proceedings as well as any information on the financial status of the Atlas Corporation.

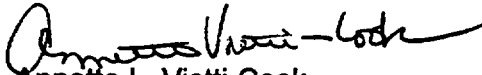
This subject matter does not concern the operations or activities of the federal government. Although you have explained that upon your receipt, the documents you seek will be used to increase public understanding of government activities related to finalizing and funding a reclamation plan for the Atlas Mill Tailings pile during the pendency of the Atlas Corporation bankruptcy proceedings, the subject matter of the documents you are requesting from the September 1998 through September 1999 time frame relate solely to the financial status and bankruptcy status of the Atlas Corporation. Although the NRC approved the original reclamation plan during the 1980s and an amended reclamation was approved by NRC in May 1999, there have been no further approvals by NRC concerning a final reclamation plan in light of the licensee's bankruptcy. Moreover, the reclamation plan itself does not constitute a government operation or activity. The reclamation plan is the licensee's activity that was subject to NRC approval.

I note that you do not appear to have an overriding commercial interest in the disclosure of the information you seek, and you have made an adequate showing that you are able to disseminate the information to the public. However, you have not satisfied factors (1) and (2) above, which are the requirements that the subject matter of the requested records concern the "operations or activities of the Federal government", and that the documents are likely to contribute significantly to the public's understanding of "federal Government operations or activities".

Finally, as you may know, some of the records responsive to your request are already available in the Public Document Room (PDR), e.g., correspondence related to the Atlas Corporation bankruptcy. Any member of the public can view such records free of charge at the PDR or can review indexes to these records from remote locations by toll-free on-line access to the PDR, by accessing the Bibliographic Retrieval System through Telnet, or by accessing documents through the NRC PDR's website. Persons without computer access may call the PDR staff on toll-free telephone lines to obtain information about the availability of NRC records and to order copies of records located there. The PDR has an onsite contractor who will copy records maintained at the PDR at nominal rates. The NRC will not waive fees for records that have already been made available to the public through its PDR.

Based upon the above considerations, your appeal is denied and the charge of \$ 383.26 is reaffirmed. This decision is a final agency action pursuant to 10 C.F.R. § 9.29 (c)(3) (1999). Judicial review of this decision is available in the United States District Court for the judicial district in which you reside or have your principal place of business or in the District of Columbia.

Sincerely,

A handwritten signature in black ink, appearing to read "Annette L. Vietti-Cook", with a stylized flourish at the end.

Annette L. Vietti-Cook
Secretary of the Commission

EXHIBIT I

FWS/R6
CO/KS/NE/UT
6-UT-97-F-003

JUL 29 1998

Joseph J. Holonich, Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguard
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Mr. Holonich:

In accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act), and the Interagency Cooperation Regulations (50 CFR 402), this transmits the Fish and Wildlife Service's final biological opinion for impacts to federally listed endangered species from the proposed reclamation of the Atlas Mill Tailings Site in Moab, Utah. The Reclamation Plan includes the capping of the mill tailings and the relocation of Moab Wash. Interrelated to and an indirect effect of the Reclamation Plan is a groundwater corrective action plan. This opinion is provided to you as the lead Federal Agency regarding section 7 consultation for this project. Copies of this opinion should be provided to the applicant because the Service has incorporated reasonable and prudent alternatives that should be included as conditions of any permits issued by the Nuclear Regulatory Commission for this project.

This biological opinion is based on information provided in: the biological assessment; supplemental biological assessment; draft environmental impact statement; preliminary final environmental impact statement; supplemental information provided by Atlas Corporation, the Nuclear Regulatory Commission, and other public information sources; various reports detailing the results of sampling conducted for contaminant analyses of the tailings pile and the Colorado River adjacent to the pile including the most recent reports provided to the Service on January 9, January 23, and February 5 from Oak Ridge National Laboratory in Grand Junction, Colorado, and Atlas Corporation. Additional data was taken from information on file with the Service. A

complete administrative record of this consultation is on file in the Service's Utah Field Office, Salt Lake City, Utah.

The biological assessment and supplemental biological assessment for the project have concluded that, with the exception of ammonia, the proposal for onsite reclamation does not have an adverse impact on endangered species. The Service concurs that the level of ammonia in the discharge associated with leaching of the tailings pile may affect endangered species, in particular, the endangered Colorado squawfish (*Ptychocheilus lucius*) razorback sucker (*Xyrauchen texanus*). The Service also concluded that the leaching of additional constituents of the tailings pile may affect the Colorado squawfish and the razorback sucker; that the depletion of water from the Colorado River for dust control, decontamination, construction, and other uses, may affect the bonytail chub (*Gila elegans*), humpback chub (*Gila cypha*), razorback sucker, and Colorado squawfish; and that construction activities associated with reclamation of the site may affect the southwestern willow flycatcher (*Empidonax traillii extimus*). Therefore, this biological opinion covers impacts to the following species: razorback sucker, Colorado squawfish, humpback chub, bonytail chub, and southwestern willow flycatcher.

The Service has previously issued two drafts of this opinion. Extensive discussions have resulted in significant modifications to the opinion. The first draft that was issued in June 1997 identified a reasonable and prudent alternative for the Nuclear Regulatory Commission to require Atlas Corporation to move the tailings pile out of the floodplain. Although this course of action would provide the greatest environmental safeguards, the Service determined that requiring Atlas to move the tailings pile was outside of the present legal authority of the Nuclear Regulatory Commission, and, therefore, Service regulations would not allow its inclusion as a reasonable and prudent alternative.

SCOPE OF THE BIOLOGICAL OPINION

Interrelated Actions and Indirect Effects. The Biological Assessment and Supplemental Biological Assessment prepared by the Nuclear Regulatory Commission both state that formal consultation was initiated with the Service on the proposed reclamation of the Atlas mill tailings site in Moab, Utah, not simply on the capping of the pile in place. The Biological Assessment further states that to achieve reclamation of the site Atlas Corporation has applied for a license amendment to the Nuclear Regulatory Commission that would allow Atlas to (1) stabilize the tailings pile for permanent disposal at its current location on the floodplain of the Colorado River at the Moab site; (2) prepare the 162 ha (400 acre) site for closure; and (3) upon satisfactory

stabilization of the tailings pile and site closure, discontinue its responsibility for the tailings, which would then be transferred for long-term custodial care to a government agency.

The Service concluded, in its June 1997 Draft Biological Opinion, April 1998 Revised Draft Biological Opinion, as well as in additional verbal and written correspondence, that the actions of capping and Groundwater Corrective Action cannot be separated from the complete reclamation of the site. The Service recognizes that elements of groundwater corrective action, including dewatering the tailings pile through pumping of pore water to the surface of the pile for evaporation, have previously been accepted or approved by the Nuclear Regulatory Commission..

The Nuclear Regulatory Commission, in their comments on the Services Draft and Revised Draft Biological Opinion, stated that they recognize that the current Corrective Action Plan must be revisited and needs to be expedited. To avoid future leaching of contaminated groundwater into the Colorado River jeopardizing the endangered Colorado squawfish and razorback sucker, the Service has identified in the following biological opinion, the need for expedited implementation of a revised Groundwater Corrective Action Plan. The Nuclear Regulatory Commission states that this new Action Plan "will involve modification to the already existing Corrective Action Plan".

Endangered Species Act regulations require that a section 7 consultation assess the direct or immediate effects and indirect effects of the project on the species or its habitat, as well as the impact of State or private actions which are contemporaneous with the consultation in process. Direct effects result from the agency action including the effects of interrelated and interdependent actions. Indirect effects are those that are caused by or will result from the proposed action and are later in time, but still are reasonably certain to occur. To cap the pile as proposed, the tailings must be dewatered to achieve certain compaction criteria per Nuclear Regulatory Commission regulations. The dewatering of the tailings pile will directly affect the leaching of contaminants from the pile because some of the water from the tailings will become contaminated and leave the pile as a component of the ground water. Ultimately, the ground water will carry the contaminants into the Colorado River. Therefore, the Service believes that the specific action of capping the pile has an indirect effect on the listed fish species.

Interrelated actions are defined as those activities that are part of the proposed action and depend on the proposed action for their justification. Interdependent actions are defined as those actions having no significant independent utility apart from the action that is under consideration. The

Service's consultation handbook further clarifies the use of the interrelated argument by stating that, "As a practical matter, the analysis of whether other activities are interrelated to, or interdependent with, the proposed action under consultation should be conducted by applying a "but for" test". In other words, would another activity in question occur "but for" the proposed action under consideration. The Service's regulations further support the interrelated argument by stating that the action in question, in this case a groundwater corrective action plan, should be measured against the proposed action. In other words, is the groundwater corrective action interrelated to the capping of the tailings pile? The Service believes that the Groundwater Corrective Action Plan is interrelated to the proposed action of capping the pile in place for the following reasons:

1.) The purpose of the action, as identified in the Preliminary Final Environmental Impact Statement (page 1-7) is "to minimize the potential for environmental and public health impacts posed by the existing tailings pile". The purpose of the Biological Assessment is further stated as evaluating the environmental impacts from the proposed reclamation of the Atlas mill tailings site. Given that stated purpose of completing reclamation of the pile and closure of the site by the Nuclear Regulatory Commission, groundwater cleanup must be considered an action interrelated with the capping of the pile and the relocation of Moab Wash. It is part of the proposed action, as it is identified in both the Preliminary Final Environmental Impact Statement and the Biological Assessment. Justification of the groundwater cleanup is dependent upon the proposed action, as identified in the Biological Assessment and Preliminary Final Environmental Impact Statement, and would not occur "but for" the proposed reclamation of the site. If it were not for the proposed action of site reclamation, Atlas Corporation and the Nuclear Regulatory Commission would not be assessing the need for groundwater cleanup.

2.) Actions deemed necessary in the Final Ground Water Corrective Action Plan will be dependent on what actions are taken in reclaiming the tailings pile. The Nuclear Regulatory Commission stated in their comments on the Service's Draft Biological Opinion that, "With the decision to reconsider onsite reclamation, it was deemed prudent to defer consideration of revisions to the Corrective Action Plan until the issue of the final location of the tailings was decided". The fact that the decision of onsite reclamation may affect consideration of revisions to the groundwater corrective action plan clearly indicates that the two actions are interrelated.

3.) The Nuclear Regulatory Commission has further identified that Atlas' ability to use alternate concentration limits (NRC 1996), is dependent on the final disposition of the tailings. The Nuclear Regulatory Commission has stated that if the tailings pile is capped in place, the groundwater standards that are applied to the site may be different than those applied to the site if another course of action were followed.

The Nuclear Regulatory Commission regulations permit a narrow view of license amendment requests submitted by licensees, while the regulations governing interagency consultations pursuant to the Endangered Species Act (50 CFR 402.02 et seq.) require the Service to consider not only the discrete action proposed, but also the broad effects of that action on listed species, the ecosystems upon which they depend, and upon designated critical habitat. For that reason, the Service believes that for the purposes of this opinion, the action upon which consultation was requested, the reclamation of the site, cannot be narrowly viewed as the specific action of capping the pile, and that groundwater corrective action, some of which is already underway, is an interrelated action and an indirect effect. Therefore, this opinion deals with groundwater corrective action as part of the "action" with the expectation that the Service will work with the Nuclear Regulatory Commission and Atlas Corporation as further groundwater corrective action, including the formulation of Alternate Concentration Limits, at the site is planned and undertaken.

BACKGROUND

The Atlas Moab Mill is located on the west bank of the Colorado River about 3.7 km (2.3 mi) northwest of Moab, Utah. The property and facilities were originally owned by the Uranium Reduction Company and regulated by the Atomic Energy Commission, precursor to the Nuclear Regulatory Commission. The mill and site were acquired by Atlas Corporation in 1962. Atlas activities at the Moab Mill site are currently covered by Nuclear Regulatory Commission Source Material License SUA-917, which was renewed in 1988. The mill ceased ore milling operations in 1984.

The Atlas tailings pile is about 0.8 km (0.5 mile) in diameter and 28.65 m (94 feet) high. It rises to an elevation of 1237 m (4058 ft) above mean sea level. The height of the pile is about 27 m (90 ft) above the surface of the Colorado River terrace, which is approximately 1,210 m (3,970 ft) above mean sea level at the side of the pile nearest the river. It is unknown exactly how much of the pile lies within the terrace of the Colorado River. The pile is located 3.7 km (2.3 mi) northwest of Moab, Utah and occupies about 53 ha

(130 acres) of land about 230 m (750 ft) from the Colorado River. It consists of an outer compact embankment of coarse tailings and an inner impoundment of both coarse and fine tailings. An interim cover of uncontaminated earth covers the tailings. The amount of tailings is estimated to total 9.5 million metric tons (10.5 million tons).

Initial tailings pond construction was completed in 1956, and with the exception of brief periods, tailings were disposed in the pond continuously from initial startup in October 1956 until the mill ceased operations and was placed on standby status in 1984. The tailings pile has been maintained since that time under various conditions of the Atlas Source Material License. The pile has five embankments that were raised to their present elevation of 1.237 m (4,058 feet) above mean sea level after the 1979 license renewal. A 5.5 m (18 foot) raise in embankment elevation to a projected final elevation of 1.242 m (4,076 feet) was reviewed and approved under License Amendment No. 7 dated June 30, 1982. However, the embankment raise was never initiated because the added capacity was not needed when the mill subsequently entered a long-term shutdown status.

During early operations Atlas utilized an acid leach process for uranium milling. During this period, lime was added to the mill tailings to help neutralize the tailings. In 1961 an alkaline leach process was initiated. In 1967 a new acid leach circuit was installed and, for a period of time, both the acid circuit and an alkaline circuit were operated. From 1982 through 1984, only an acid leach process was used with no neutralization of process water because a recycle process was in use.

To collect water draining from the tailings pile embankments, two sump pits were excavated in the 1980's, one on the northeast side of the pile and the other on the south end of the pile. Pumps were installed to collect the seepage water and pump it to an evaporation pond on top of the tailings pile. Water did not collect in the pits for several years, and the pumps were subsequently removed. The Nuclear Regulatory Commission amended Atlas's license to allow disposal of radioactive contaminated solid waste in the south sump pit.

The 1982-1984 phase of operations appears to have resulted in increased metals mobilization as a result of the lower pH of the water and tailings associated with the acid leach circuit. After the Nuclear Regulatory Commission conformed its groundwater regulations to the Environmental Protection Agency's, they required Atlas to initiate a compliance monitoring and corrective action program by July 1990. A revised program was prepared by Atlas and found acceptable with modification. The program was made mandatory

by license conditions 17 and 55. The program included the establishment of groundwater quality standards, point-of-compliance wells, a background well, sampling frequency, groundwater sampling points, selected constituents for which the groundwater was to be analyzed, and enhanced drying of the tails. Wells were drilled into the tailings to pump water to an evaporative pond on the top of the tailings pile. Both the Nuclear Regulatory Commission and Atlas have identified that this action constitutes implementation of a current Groundwater Corrective Action Plan. The projected date for completion of all Groundwater Corrective Actions is December 1998, as specified in license condition 55, but this date is subject to revision. The Nuclear Regulatory Commission has acknowledged that the current plan needs to be revised and cleanup expedited. The criterion for completion of a revised Groundwater Corrective Action Plan have not been identified. Atlas is currently collecting data and preparing an updated application for its revised Groundwater Corrective Action Plan which will be reviewed by the Nuclear Regulatory Commission in a subsequent decision.

Atlas is currently in the process of closing and reclaiming the tailings site. The Nuclear Regulatory Commission's review of a licensee's proposal to close and reclaim a tailings site consists of three separate reviews:

1. The Nuclear Regulatory Commission reviews a licensee's decommissioning plan, which addresses the decontamination and/or dismantling of buildings and structures and cleanup of land. Atlas's decommissioning plan was previously approved by the Nuclear Regulatory Commission. Atlas has dismantled and disposed of all but one building on the site, in accordance with the decommissioning plan.
2. The Nuclear Regulatory Commission reviews a licensee's reclamation plan, which addresses reclamation of the tailings to achieve long-term isolation. Atlas's reclamation plan is the subject of this consultation. The Nuclear Regulatory Commission is in the process of finalizing an Environmental Impact Statement on the plan.
3. For sites at which ground water concentrations of hazardous constituents from the tailings impoundment have been detected above appropriate standards, the Nuclear Regulatory Commission reviews a licensee's corrective action plan. Atlas is currently implementing a corrective action plan that was approved by the Nuclear Regulatory Commission and has begun to collect additional data to update and revise the Corrective Action Plan for Nuclear Regulatory Commission review.

Atlas has conducted cleanup of windblown tailings and other contaminated soils in several areas on the site. These areas were along the west side of State Route (S.R.) 279, between the tailings pile and the highway, an area northwest of the tailings pile, and an area of about 3 ha (7 acres) southeast of the tailings pile. Cleanup involved excavating the windblown tailings and contaminated soil and placing them on the tailings pile. Additional cleanup of onsite and offsite contaminated windblown materials will be conducted as part of the reclamation activities.

Currently, the Atlas mill tailings site is regulated under Title II of the Uranium Mill Tailings Radiation Control Act of 1978. Atlas Corporation has requested that the Nuclear Regulatory Commission approve an amendment to its existing license for a proposed reclamation plan involving onsite disposal of uranium mill tailings at the former mill site in Moab, Utah. In January 1996, the Nuclear Regulatory Commission published a Draft Environmental Impact Statement evaluating the proposed reclamation plan.

The Utah Department of Environmental Quality directed Atlas Corporation, by letter dated September 12, 1996, to comply with UAC-R317-6-6.15.C1 and to submit a Groundwater Contaminant Investigation Report and Groundwater Corrective Action Plan. In an amendment to the above described notice, dated January 8, 1997, the Utah Department of Environmental Quality directed that Atlas must resolve all State concerns relative to the Groundwater Contaminant Investigation and Corrective Action Plan, to the satisfaction of the Executive Secretary, before construction of closure mechanisms that may require retrofit to meet State requirements. It is unknown at this time to what extent decisions relating to the reclamation of the site may be affected by State law compliance requirements with respect to contaminants in surface water and groundwater over which Utah claims exclusive regulatory authority and, therefore, in design of the cap.

CONSULTATION HISTORY

The Service's Utah Field Office has been involved with the proposed reclamation of the Atlas mill tailings since 1979. At that time, the Department of Interior provided comments which were included in the Final Environmental Statement for the Atlas site. These comments included reference to the proposed critical habitat designation for two endangered fish, the humpback chub and Colorado squawfish.

In 1983, the Utah Field Office of the Fish and Wildlife Service expressed concern, in a letter to the Assistant Regional Director regarding a review of the Emergency and Remedial Response Information System Inventory, that the

only site which posed any potential for a problem was the Atlas Mineral Corporation mill tailings pile at Moab, Utah. The Service identified concerns about possible effects to Colorado squawfish and razorback sucker.

On August 28, 1992, the Service provided the Nuclear Regulatory Commission with a letter identifying the presence of four endangered fishes in the Colorado River. This letter expressed concern that plans for reclamation of the mill tailings ensure that tailings material will never enter the Colorado River system, particularly over the long term when there may not be personnel or equipment to deal with problem situations. This was a concern because in the middle 1980's the river level was up to the base of the tailings pile and equipment operators were barely able to keep the pile from sloughing into the river. At that time the Service also advised the Nuclear Regulatory Commission that any depletion of water from the Colorado River system, including water used in dust suppression, is considered a "may affect" on the endangered Colorado River fish.

On May 13, 1994, the Service sent a letter to the Secretary, Nuclear Regulatory Commission, providing review and comment on the Notice of Intent to prepare an Environmental Impact Statement. In this letter, the Service identified that our Regional Office in Denver had provided extensive comments in a memorandum on the Environmental Assessment prepared for the project in August 1993. A copy of this memorandum was enclosed with the Service's May 13, 1994, letter. In that letter, the Service identified major concerns regarding contaminants and endangered species issues and notified the Nuclear Regulatory Commission that these issues, identified in the memorandum, needed to be fully addressed in the Environmental Impact Statement. These issues included water depletion from the Colorado River, groundwater contamination, release of toxic elements from this site compounding contaminant problems in the Colorado River system, the lack of a discussion of laboratory practices for chemical analyses of toxic elements, selenium in surface water, radiological hazards to wildlife and "take" under the Migratory Bird Treaty Act, the lack of contaminant studies in fish, the attitude that the area will be a maintenance free closed system for 200--1,000+ years, and the possibility of a bank storage of toxic elements during high water flows down the Colorado when water levels would be above the level of the tailings pile.

On November 2, 1994, the Service again provided a list of species that may be affected by the reclamation of the Atlas mill tailings, this time to Oak Ridge National Laboratory, Tennessee. Oak Ridge was a consultant working for the Nuclear Regulatory Commission on preparation of the Environmental Impact Statement for the proposed action. In this letter the Service identified that, not only were four endangered Colorado River fishes (Colorado squawfish,

razorback sucker, humpback chub, and bonytail chub) likely to occur in the vicinity of the proposed project site, but that the peregrine falcon (*Falco peregrinus*) and Jones cycladenia (*Cycladenia humilis* var. *jonesii*) also may be present. The Service again identified that indirect effects could result from water depletions associated with the project and that any depletion of water, including water used for construction activities such as dust suppression, drilling, and mixing of concrete, from the upper Colorado River Basin is considered a jeopardy to the endangered fish. The Service also identified that water depletion is considered to be an adverse modification of designated critical habitat for the endangered Colorado River fishes.

On January 11, 1995, the Service provided comments on the Preliminary Draft Environmental Impact Statement. In these comments the Service identified that it did not agree with the conclusions drawn in the Preliminary Draft Environmental Impact Statement concerning the tailings contamination of the Colorado River. The Preliminary Draft Environmental Impact Statement concluded that little impact on water quality would result and that contamination would not be expected to have toxic effects on wildlife that drink the water or prey on fish or waterfowl. The Service identified that some contaminants of concern can bioaccumulate to harmful levels in wildlife even when contaminant levels remain below water quality standards, and that sampling of aquatic biota is the best way to determine if contaminants are bioaccumulating in the food chain. The Service also stated that dilution by the Colorado River is not an effective means of mitigation for contaminants being carried into the river from the Atlas mill tailings pile. The Service again identified that selenium contamination was a concern and that the literature indicates detrimental effects on fish and waterfowl from selenium levels of 1-3 $\mu\text{g/L}$ in water (Peterson and Nebeker 1992; Hamilton and Waddell 1994; Skorupa and Ohlendorf 1991). Furthermore, Service comments identified inadequate sediment and biota sampling in the river and in the Scott M. Matheson Wetlands Preserve across the river channel and recommended sampling benthic invertebrates, aquatic plants and nonendangered fish. The Service also identified that the Preliminary Draft Environmental Impact Statement provided inadequate radiological hazard evaluation, and an inadequate examination of the environmental impacts of a tailings pile failure.

In April 1995, contaminants staff from the Service's Utah Field Office participated in a 2-day meeting in Moab to determine what studies were needed to characterize the tailings pile constituents and to determine what leachates, if any, were escaping from the pile and ending up in the Colorado River. At this meeting the Federal representatives developed a list of recommended objectives and protocols for the Atlas/Nuclear Regulatory Commission study of the Colorado River below the Atlas tailings pile. The

Service expressed a need for additional data at the site in order to make informed decisions on environmental impacts. These recommendations were submitted to the Nuclear Regulatory Commission and their consultants. For a variety of reasons, most of the recommended data collections were not conducted.

On November 2, 1995, the Service received the biological assessment on the proposed reclamation of the Atlas mill tailings from the Nuclear Regulatory Commission with a request for formal consultation pursuant to the Endangered Species Act of 1973, as amended. A limited review of the biological assessment prompted the Service to request additional materials and analysis in a letter dated February 15, 1996. Additionally, the Service indicated in this letter concerns that the limited data collected did not accurately assess potential impacts to the endangered fish species in the Colorado River, and that the Service would complete a biological opinion upon receipt of the results of some additional analyses.

On March 28, 1996, the Service forwarded comments on the Draft Environmental Impact Statement to the National Park Service. The National Park Service coordinated Department of the Interior comments on the Draft document. After having fully reviewed the Draft Environmental Impact Statement and the Biological Assessment and receiving the results of some additional analyses, the Service provided the Nuclear Regulatory Commission with a letter; on July 22, 1996, which related its ongoing concerns regarding the paucity of data on toxic elements released into the Colorado River system from the Atlas mill tailings pile, as well as the inconsistency in data results. Additionally, the Service recommended a meeting between the Service, the Nuclear Regulatory Commission, and Atlas Corporation to discuss additional data needs.

On August 15, 1996, the Service met with the Nuclear Regulatory Commission and Atlas Corporation to discuss data needs and Service comments on the Draft Environmental Impact Statement. The Atlas consultants, Harding-Lawson Associates, presented some additional data concerning the hydrology of the region and the studies that had been conducted to date.

On October 21, 1996, Service staff again met with Atlas Corporation and the Nuclear Regulatory Commission to discuss regional hydrogeology, surface water quality issues, the potential effects of the tailings pile on the Colorado River and Nuclear Regulatory Commission requirements for the Ground Water Corrective Action Plan.

One additional meeting was held with Service staff, Atlas Corporation, Nuclear Regulatory Commission, and Department of Interior personnel to discuss the

Departments' comments on the Draft Environmental Impact Statement and Atlas's response to these comments. This meeting was held on December 17 and 18, 1996.

On January 14, 1997, the Service provided the Nuclear Regulatory Commission with a letter which detailed ongoing concerns relating to the section 7 consultation and the National Environmental Policy Act process as well as issues which had recently been brought to the Services' attention. The Service, realizing that the Nuclear Regulatory Commission was moving forward with the National Environmental Policy Act process and would soon provide a supplemental biological assessment, informed the Nuclear Regulatory Commission of many continuing concerns regarding the completion of the National Environmental Policy Act process prior to completion of the section 7 consultation, the possible impacts to endangered species from the contaminated groundwater underneath the tailings pile and from the relocation of Moab Wash, the concern with the analytical methods used to characterize the leachate from the pile, the lack of data characterizing the tailings pile itself, the concern that the State of Utah had identified high concentrations of ammonia at and below the Atlas site, and transmitting the Service's concern regarding the presence of southwestern willow flycatcher at the site. The southwestern willow flycatcher had not been included in earlier species lists provided by the Service as the species was not listed as endangered until February 27, 1995.

On January 30, 1997, the Service received the supplemental biological assessment on the proposed reclamation of the Atlas mill tailings, with a cover letter requesting formal section 7 consultation pursuant to the Act.

On February 3, 1997, the Service received a letter from Atlas Corporation transmitting Atlas's perspective on several of the procedural or process and technical issues identified in the Service's January 14, 1997, letter to the Nuclear Regulatory Commission.

On February 6, 1997, the Service received a revised letter from Atlas Corporation requesting that the Service replace the February 3, 1997, letter with this new letter. There were no substantive changes or alterations.

On February 18, 1997, the Service sent a letter to the Nuclear Regulatory Commission acknowledging receipt of the supplemental biological assessment and request for formal consultation. In that letter the Service identified that it would provide the Nuclear Regulatory Commission with a biological opinion by June 15, 1997.

On March 27, 1997, the Service received a letter from Atlas Corporation providing some additional information which had been requested concerning water depletions from the Colorado River and proposed actions for the Ground Water Corrective Action Plan.

On June 26, 1997, the Service released its Draft Jeopardy Biological Opinion for the proposed reclamation of the Atlas mill tailings site in Moab, Utah. Comments on the Draft Biological Opinion were received from the Nuclear Regulatory Commission, dated August 12, 1997, and Atlas Corporation and their consultants, dated August 6, 1997.

On September 9, 1997, Service staff participated in a meeting arranged by the Grand Canyon Trust, with staff from Oak Ridge National Laboratory/Grand Junction, the National Park Service, the State of Utah (by phone), and Grand Canyon Trust, to discuss the potential effects of contaminated groundwater discharge to the Colorado River from the Atlas pile. The Oak Ridge National Laboratory/Grand Junction was assigned the task of developing a sampling scheme to more accurately delineate the content and width of the contaminant plume. A letter proposal was distributed September 19, 1997.

Given the differing opinions concerning the Service's Draft Jeopardy Biological Opinion and its significant impacts, the entire matter was elevated to the Council of Environmental Quality and the Office of the Secretary of Interior. The Council of Environmental Quality approved the Oak Ridge National Laboratory/Grand Junction study proposal.

On October 23, 1997, a meeting was held in the Service's Denver office to address the status of the Oak Ridge National Laboratory/Grand Junction study proposal and refine the work plan. Participants included the Service, Oak Ridge National Laboratory/Grand Junction, Nuclear Regulatory Commission, Atlas Corporation, and Atlas's consultants, Harding-Lawson Associates. At the meeting Oak Ridge National Laboratory/Grand Junction agreed to perform the work and provide a report 60 days following the awarding of funds. Subsequently, Atlas Corporation, the Nuclear Regulatory Commission, and the Service agreed that following receipt of the Oak Ridge National Laboratory/Grand Junction report, the Service would issue a revised draft biological opinion within 30 days, that the Nuclear Regulatory Commission and Atlas Corporation would then have 10 days to review the revised draft biological opinion and get comments to the Service, and that the Service would then have an additional 30 days to finalize the biological opinion.

On November 10, 1997, Oak Ridge National Laboratory/Grand Junction began work on the approved study and on January 9, 1998, submitted the final report to

the Service (received on January 12, 1998) and the Nuclear Regulatory Commission.

Upon receipt and review of the January 9, 1998, Oak Ridge National Laboratory/Grand Junction (1998a, 1998b) studies, and because the modeling that the Service had agreed to had been considerably cut back by the Nuclear Regulatory Commission, the Service determined that additional modeling would be beneficial in determining the long term impacts of leaving the tailings pile in place as opposed to moving it. An additional study that supplemented the earlier modeling effort was agreed to by the Nuclear Regulatory Commission and Atlas Corporation and conducted by Oak Ridge National Laboratory/Grand Junction (1998c). Shortly into this modeling effort, the Nuclear Regulatory Commission decided that a further modeling effort, one which modeled the long term contaminant levels in the Colorado River, was necessary. On February 5, 1998, Service staff met with the Nuclear Regulatory Commission, Atlas Corporation, Harding-Lawson Associates, and Oak Ridge National Laboratory/Grand Junction to discuss future modeling needs. At this meeting Oak Ridge National Laboratory/Grand Junction presented the completed supplemental modeling requested by the Service. After hearing the presentation, the Nuclear Regulatory Commission determined that additional future modeling was not the best course of action at this time as it would not provide substantially more information. All parties then agreed to move forward with a revised draft biological opinion, to be delivered to the Nuclear Regulatory Commission by March 2, 1998.

On March 2, 1998, Atlas Corporation, in a letter to the Nuclear Regulatory Commission, granted an extension of the agreed upon time frame for issuance of the Service's revised draft biological opinion. The letter from Atlas Corporation stated that the length of this extension would be determined pursuant to discussions to be immediately undertaken among Atlas, the Nuclear Regulatory Commission, and the Service.

In a subsequent letter, dated March 11, 1998, from Atlas Corporation to the Nuclear Regulatory Commission, Atlas consented to an extension of an additional 30 days for issuance of the revised draft biological opinion pending a response from the Service on a fundamental issue identified during the consultation process, that of whether the Nuclear Regulatory Commission could require Atlas Corporation to move the tailings pile out of the Colorado River floodplain. The Service provided said response in a letter dated March 11, 1998, which stated that the Nuclear Regulatory Commission did not have the authority to make Atlas Corporation move the pile.

On April 14, 1998, the Service issued a Revised Draft Biological Opinion. Numerous comments were received on the Revised Draft Biological Opinion from the Nuclear Regulatory Commission and Atlas Corporation. These comments facilitated a meeting that was held between the Nuclear Regulatory Commission, the Service, and Atlas Corporation on May 21 and 22, 1998. In this meeting and several subsequent conference calls, all parties agreed that upon receipt of a letter from Atlas Corporation identifying several specific time frames for completion of proposed actions, the Service would issue a final biological opinion within 30 days. The Service received said letter on May 29, 1998.

On June 30, 1998, the parties agreed to an additional extension. The Service agreed to complete and transmit a draft final biological opinion to the Nuclear Regulatory Commission and Atlas Corporation by July 10, 1998, and the final biological opinion by July 20, 1998. This agreement was stated in letters sent by the Nuclear Regulatory Commission and Atlas Corporation and received by the Service on June 30, 1998. On July 9, 1998, the Service completed and transmitted the draft final biological opinion.

In a conference call on July 16, 1998, the parties agreed to extend the date of issuance of the final biological opinion to July 24, 1998. Letters from Atlas and the Nuclear Regulatory Commission agreeing to the extension were received by the Service on July 20, 1998.

In planning and discussing the Oak Ridge National Laboratory/Grand Junction studies and in preparation of this final biological opinion, numerous phone calls, conference calls, E-mail messages and facsimiles were effected between the interested parties.

BIOLOGICAL OPINION

This final biological opinion is based on the best scientific and commercial data available. While there is variability in some of the available information, the Service has evaluated all available information concerning the baseline, background (current) effects of the tailings pile on endangered species and the possible and probable future impacts to the species with the proposed action as well as other reclamation alternatives. After reviewing the current status of the razorback sucker, Colorado squawfish, humpback chub, bonytail chub, and southwestern willow flycatcher, the environmental baseline for the action area, the effects of the proposed action, and cumulative effects, it is the Service's biological opinion that the project as proposed, capping of the pile in place, will jeopardize the continued existence of razorback sucker and Colorado squawfish due to the continued leaching of

contaminants into the Colorado River. The project will further jeopardize the continued existence of razorback sucker, Colorado squawfish, bonytail chub and humpback chub due to water depletion impacts. Additionally, the proposed action will result in the destruction or adverse modification of designated critical habitat for the Colorado squawfish and razorback sucker. The project will not jeopardize the continued existence of southwestern willow flycatcher. The Service has developed reasonable and prudent alternatives to avoid the likelihood of jeopardy to the endangered fishes and to avoid destruction or adverse modification of their critical habitat, and has developed reasonable and prudent measures to minimize the incidental take of southwestern willow flycatcher, razorback sucker, and Colorado squawfish.

DESCRIPTION OF PROPOSED ACTION

Final Structure and Characteristics of the Reclaimed Tailings Pile

While the Nuclear Regulatory Commission has identified that additional modifications to the pile design may result from the ongoing review of the Groundwater Corrective Action Plan, the current project design is outlined below.

Pile Design. Atlas proposes to reclaim the tailings pile at its current location. Rock riprap and clay required for covering the pile would be transported by truck to the site from proposed borrow areas located southeast of Moab in Spanish Valley for cobble-sized rock and gravel, southwest of the Atlas pile near the Moab Salt and Potash Production and Packaging Facility for larger rock, and northwest of Moab on Klondike Flat (a portion of the Plateau Site) for clay.

As proposed, the reclaimed tailings pile at the Moab site would be approximately 0.8 km (0.5 mile) in diameter and 27 m (94 ft) high at its highest point near the river. It would have sloped sides and a concave upper surface with drainage ditches to minimize standing water on the surface of the pile, reducing water infiltration. The pile would contain about 9.5 million metric tons (10.5 million tons) of tailings. In addition, miscellaneous materials, including debris from mill decommissioning, would be disposed of adjacent to the pile's southeastern edge. The currently relatively steep slopes on the sides of the pile would be reduced to 30 percent except at the eastern sides of the pile facing the river, where the slopes would be reduced to 10 percent. The tops and sides of the pile would be covered with rock riprap layers. The elevation at the base of the pile is about 1,210 m (3,970 ft) above mean sea level, and the highest spots on the outer rim of the reclaimed pile would be about 1,238 m (4,062 ft) above mean sea level.

The reclaimed pile would be designed to minimize erosion, infiltration of rainwater into the tailings, and the release of radon gas. The pile would be designed to withstand the probable maximum precipitation event and the probable maximum flood event. Rock for riprap would have acceptable durability to withstand the forces of weathering. The design will comply with Criterion 6 of 10 CFR Part 40, which states that the design must provide reasonable assurance of control of radiological hazards to be effective for 1,000 years to the extent reasonably achievable and, in any case, for 200 years. The layers of the reclaimed pile, from the bottom upward, would include the tailings layer and a cover system (Table 1).

Table 1. The Proposed Cover Profile Over Coarse Tailings, Fine Tailings, and Embankments.

Over Coarse Tailings		Over Fine Tailings	On Embankments
(bottom)	Low grade ore ^a from the mill area-15cm (6 inches)	Regraded coarse tailings-2.1 m (7 ft) minimum	Regraded coarse tailings
	Affected soil-41 cm (16 inches)	Affected soil-41 cm (16 inches) minimum ^b	Sandy soil-2.1 m (7 ft) minimum
	Compacted clay-20 cm (8 inches) minimum	Compacted clay-30 cm (12 inches) minimum	Filter layer-variable thickness
	Sandy soil-23 cm (9 inches)	Sandy soil-23 cm (9 inches) minimum	
(top)	Rock-variable thickness	Rock-variable thickness	Rock-variable thickness

^aOre is waste rock-like material that was mined and transported to the mill. All indicated thicknesses of layers are minimums.

^b Affected soil is soil that must be removed from the mill area and outlying areas to meet cleanup standards.

The cover system would provide a minimum of 94 cm (37 inches) of cover above the tailings on the top and sides of the cell. Generally, the cover would include a layer of affected soil from the mill area and outlying areas directly over the tailings, then a clay layer (radon barrier), a layer of sandy soil, and a surface layer of riprap. As currently proposed, the side slopes of the pile would not have a clay layer. However, if review of the revised Corrective Action Plan reveals the need to further reduce infiltration into the pile, a clay layer on the side slopes may be needed. If necessary to meet surface contour requirements, fill material may be placed in certain low areas over the coarse tailings prior to placing the cover system. The radon

barrier would consist of suitable material to minimize both the escape of radon and the infiltration of rainwater. The rock, which would be at least 10 cm (4 inches) thick, would protect against erosion and restrict the intrusion of vegetation and burrowing animals into the radon barrier. Tailings include both coarse and fine tailings, with the latter having higher radiation levels. As shown in Table 1, a thicker cover system over fine tailings will be required to meet radon emission limits. The placement of coarse tailings over any fine tailings currently at the surface is proposed.

The relatively flat top of the pile would be sloped slightly downward toward the middle and toward the northwest to promote collection of surface runoff and drainage to Moab Wash. Surface runoff on the top of the pile would flow to several collection ditches that would direct rainwater to a channel leading from the top of the pile to Moab Wash. Another ditch would be constructed between the bluff and the southwest slope of the tailings pile to convey runoff to the Colorado River. All ditches would be protected with riprap and one or more layers of gravel under the riprap. The gravel layers are needed in the ditches to provide additional protection against erosion of the underlying soil material during runoff events. Flood protection along the base of the pile would protect the pile from higher floods and the possibility of channel migration.

To provide adequate erosion protection and to prevent erosion of the embankment side slopes, Atlas would provide a large essentially horizontal, rock apron along the toe of the pile, designed to collapse onto the side slope of the migrated river channel. The apron would be provided from the mouth of the southwest drainage channel northeastward to the point where it joins the Moab Wash toe protection in the area of the debris pit. This also would prevent erosion into the tailings pile of Moab Wash, should it migrate towards the pile. The rock volume of the apron would be sufficient to cover the channel bank and to prevent further erosion of the river bank and the pile side slope.

At the toes of the side slopes the riprap would be extended a minimum 0.9 m (3 ft) beneath the earth surface to provide extra protection against flood erosion. Riprap would be extended 2.4 m (8 ft) below the surface at the outlets of the drainage ditches to prevent erosion (head cutting) of the outlets. In addition, the Nuclear Regulatory Commission could require any additional protection determined to be necessary as a condition of plan approval.

Table 2. Riprap sizes and thickness.

Location/Feature	Median Stone Size cm (inches)	Layer Thickness cm (inches)
Upper top slope	3.3 (1.3)	10.2 (4.0)
Lower top slope (1V:10H)	7.6 (3.0)	15.2 (6.0)
Side slope (3V:10H)	13.5 (5.3)	26.7 (10.5)
Collection ditches	13.5 (5.3)	26.7 (10.5)
Upper tailings pile drainage channel	13.5 (5.3)	26.7 (10.5)
Moab Wash channel	22.9 (9.0)	34.3 (13.5)
Southwest drainage channel	22.9 (9.0)	34.3 (13.5)
Apron along Colorado River	28.4 (11.2)	76.0 (30.0)
Southwest drainage channel	28.4 (11.2)	43.0 (17.0)
Lower tailings pile drainage channel	44.2 (17.4)	66.0 (26.0)
Lower southwest drainage channel (outlet)	70.1 (27.6)	106.7 (42.0)

Reconfiguration of Moab Wash

Moab Wash would be rerouted in the vicinity of the pile to run through the former mill site area. The reconfigured channel would discharge into the river upstream of the current discharge point. An inner channel about 0.6 m (2 feet) deep would be designed to carry runoff for a 200-year flood. Material excavated during construction of the reconfigured channel would be used as cover material for the pile. Any materials that were found to be contaminated would be placed on the tailings pile before the cover was installed. Atlas does not propose to provide outlet protection at the outlet of Moab Wash because the elevation of the outlet is controlled by the Colorado River.

On-Site Construction and Operations During the Reclamation Process

The primary activities on the site during reclamation would be the grading required to contour the surface of the tailings pile and the cover system, and operation of earth hauling vehicles and trucks providing cover materials from borrow areas and hauling remaining mill debris to the debris disposal sites at the southern and northeastern edges of the tailings pile. Sand from earthwork associated with reconfiguring Moab Wash would be used as part of the cover system. Earthwork would occur mainly from May to September when weather conditions are favorable. An existing building would provide the needed

facilities for workers and would be dismantled at the end of reclamation activities.

Monitoring and Maintenance of the Tailings Pile

Pre-Reclamation Characterization and Monitoring. Test bores were made at six locations on the tailings pile in 1992 to characterize the chemical and physical constituents of the tailings. Thirty-six samples were collected and grouped into three material types-ore, coarse tailings, and fine tailings. Three composite samples were taken from each of the three groups and tested for specific gravity, radium activity, emanation coefficient, diffusion coefficient, density, moisture, gradation, Atterberg limits, and capillary moisture relationships.

Prior to placing the cover system over the tailings, a system of monuments would be installed to detect any settling of the tailings. Each monument would consist of a 1.9 cm (0.75 inch) diameter metal rod welded to a 61 cm (24 inch) by 61 cm (24 inch) base plate. The rods would extend 15 cm (6 inches) above the final cover system. Before installing the cover system, monitoring would be conducted to insure that sufficient settling of the tailings had occurred. Because differential settling could adversely affect the cover system, monitoring would continue during cover placement to detect any adverse settling that would require correction.

During Reclamation. Monitoring similar to that conducted previously would continue during the reclamation process, with additional monitoring requirements to ensure that contaminants are not released during the reclamation process.

Post Reclamation. Once Atlas completes the reclamation, the agency that would assume responsibility for the tailings pile would prepare a long-term surveillance plan and submit it to the Nuclear Regulatory Commission for approval. Upon Nuclear Regulatory Commission approval of the long-term surveillance plan, the Nuclear Regulatory Commission would terminate the Atlas license (No. SUA-917) and approve transfer of ownership of the tailings pile to the United States or the State of Utah, at the option of the State, subject to a general license issued under 10 CFR Part 40.28 for custody and long-term care of byproduct material disposal sites. At a minimum, the responsible agency would be required to conduct annual site inspections to determine the need, if any, for monitoring and/or maintenance of the reclaimed tailings pile.

Borrow Areas and Transport of Borrow Materials

Required borrow materials include rock riprap, clay, and sand. Sand would be obtained from various areas on the Atlas site. Rock and clay would be obtained from offsite borrow areas and transported to the Atlas site, primarily during the winter months when tourist traffic is reduced. Rock would consist of crushed bedrock and rounded alluvial cobble obtained from Spanish Valley and Kane Creek.

The source of crushed bedrock for the largest sized riprap would be obtained from a borrow area, designated as the Kane Creek site located south of Potash adjacent to the Potash boat ramp on the Colorado River (T26S, R20E, Section 25). The site is approximately 28 km (17.5 miles) south of the Atlas site and approximately 2.3 km (1.4 miles) from the entrance to the Moab Salt and Potash Production and Packaging Facility. Borrow materials would be transported along S.R. 279 directly to the Atlas site.

Smaller cobble-sized rock and gravel would be obtained from a proposed borrow site in Spanish Valley, about 13 km (8 miles) southeast of the center of Moab (T27S, R23E, Sections 7, 8, 17, and 18; and T27S, R22E, Sections 1 and 12). The borrow materials from the Spanish Valley site would be transported along unimproved roads to U.S. 191, and then along U.S. 191 through Moab to the Atlas site.

Clay for the tailings pile cover would be obtained from the Plateau site on Klondike Flat, about 29 km (18 miles) northwest of the Atlas site. Atlas currently has a lease from the State of Utah to obtain clay from a 65-ha (160 acre) portion of the Plateau site. The transport route leaving the borrow area would be along an unimproved dirt road leading to U.S. 191 immediately south of Canyonlands Field, and then southeast along U.S. 191 to the Atlas site.

Borrow materials would be transported primarily during the winter months of November through March when tourist traffic is reduced. The materials would be transported by 23.6 metric ton (26 ton) trucks at an approximate rate of 10-12 trucks per hour during daylight hours. The licensee would probably contract commercial firms to obtain and deliver the rock.

Table 3. Truck hauling of borrow materials under the Atlas proposal.

Spanish Valley Borrow Area (Source of rock
less than 9 inches in diameter and gravel)

Quantity (yd ³)	156.777
One-way haul distance (miles)	10

Number of truck trips (16.5 yd ³ per trip)	9.502
Kane Creek Borrow Area (source of large rock greater than 9 inches in diameter)	
Quantity (yd ³)	17.500
One-way haul distance (miles)	17.5
Number of truck trips (16.5 yd ³ per trip)	1.061
Total Quantity of Rock Transported (yd ³)	
Klondike Flat (source of clay)	
Quantity (yd ³)	73.300
One-way haul distance (miles)	18
Number of truck trips (16.5 yd ³ per trip)	4.442
Total cubic-yard miles hauled (yd ³ x miles transported)	3.193.420
Total number of loaded trucks passing through Moab	9.502
Total number of trucks (loaded and empty) passing through Moab	19.004

Schedules for Reclamation and Employment

Interim cover placement to provide for control of tailings pending reclamation was completed in November 1995. It was started in August 1989 and completed in phases as the pond in the center of the pile dried up. Installation of the final cover system would begin at an appropriate time after the National Environmental Policy Act process is completed and after Nuclear Regulatory Commission has made a determination of the acceptability of the Atlas proposal. Atlas proposes to perform reclamation in five 15-week phases, starting once they have obtained required approvals. Approximately 30 weeks would be devoted to the transport and placement of clay and rock material. The remaining 45 weeks would be devoted to earthwork. The truck transport of clay and rock would be conducted primarily during the winter, when tourist traffic is reduced.

Mitigation

Mitigation proposed by the licensee consists of dust suppression measures and erosion control during the reclamation process. Water and/or chemical dust suppressants would be sprayed on the tailings pile and the primary travel routes on the site. At the end of each phase of reclamation, the areas surrounding the tailings pile that have been constructed to final grade would be seeded using a permanent seed mix and mulched. Certain areas where disturbance occurs occasionally would be seeded with fast growing grasses. Silt fences and straw bales would be used as needed to control erosion and minimize runoff of sediments to Moab Wash and the Colorado River.

Atlas has identified that historical and current water use from the Colorado River, from 1973 to present, averaged 805.1 acre-feet annually. The average annual water use during the non-operational years of 1987-1993 was 154.3 acre-feet. Therefore, Atlas estimates that the average annual depletion of water from the Colorado River, under the proposed reclamation plan, for dust control, decontamination, construction, and other uses, would be 154.3 acre-feet.

Riprap placement along the relocated Moab Wash would be completed as soon as practical after relocation of the wash. Other mitigation would consist of the ongoing corrective actions as described above. Existing fuel and oil tanks on the Atlas site and any other tanks that may be brought onto the site would be placed within bermed areas capable of containing accidental spills.

The licensee would implement a plan to minimize emissions of fugitive dust during reclamation. The plan would be required to consider all reasonable measures, including frequent sprinkling with water, use of surfactants, and covering contaminated soils during hauling.

STATUS OF THE SPECIES

Colorado Squawfish

The Colorado squawfish evolved as the main predator in the Colorado River system. The diet of Colorado squawfish longer than 3 or 4 inches consists almost entirely of other fishes (Vanicek and Kramer 1969). The Colorado squawfish is the largest cyprinid fish (minnow family) native to North America and, during predevelopment times, may have grown as large as 6 feet in length and weighed nearly 100 pounds (Behnke and Benson 1983). These large fish may have been 25-50 years of age.

Based on early fish collection records, archaeological finds, and other observations, the Colorado squawfish was once found throughout warm water

reaches of the entire Colorado River Basin, including reaches of the upper Colorado River and its major tributaries, the Green River and its major tributaries, and the Gila River system in Arizona (Seethaler 1978). Colorado squawfish were apparently never found in colder, headwater areas. Seethaler (1978) indicates that the species was abundant in suitable habitat throughout the entire Colorado River basin prior to the 1850's. Historically, Colorado squawfish have been collected in the upper Colorado River as far upstream as Parachute Creek, Colorado (Kidded 1977).

A marked decline in Colorado squawfish populations can be closely correlated with the construction of dams and reservoirs between the 1930's and the 1960's, introduction of nonnative fishes, and removal of water from the Colorado River system. Behnke and Benson (1983) summarized the decline of the natural ecosystem. They pointed out that dams, impoundments, and water use practices are probably the major reasons for drastically modified natural river flows and channel characteristics in the Colorado River Basin. Dams on the main stem have essentially segmented the river system, blocking Colorado squawfish spawning migrations and drastically changing river characteristics, especially flows and temperatures. In addition, major changes in species composition have occurred due to the introduction of nonnative fishes, many of which have thrived as a result of changes in the natural riverine system (i.e., flow and temperature regimes). The decline of endemic Colorado River fishes seems to be at least partially related to competition or other behavioral interactions with nonnative species, which have perhaps been exacerbated by alterations in the natural fluvial environment.

The Colorado squawfish currently occupies about 1,030 river miles in the Colorado River system (25 percent of its original range) and is presently found only in the Upper Basin above Glen Canyon Dam. It inhabits about 350 miles of the main stem Green River from its mouth to the mouth of the Yampa River. Its range also extends 160 miles up the Yampa River, 104 miles up the White River, and 82 miles up the Price River, several of the major tributaries of the Green River. In the main stem Colorado River, it is currently found from Lake Powell extending about 201 miles upstream to Palisade, Colorado, and in the lower 33 miles of the Gunnison River, a tributary to the main stem Colorado River (Tyus et al. 1982).

Critical Habitat

Critical habitat, as defined in section 3(5)(A) of the Act, means: "(I) the specific areas within the geographical area occupied by the species at the time it is listed on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may

In addition to water quantity and quality, physical habitat is a component of the constituent elements of designated critical habitat. The physical habitat includes areas of the Colorado River system that are inhabited or potentially habitable for use in spawning and feeding, as a nursery, or serve as corridors between these areas. In addition, oxbows, backwaters, and other areas in the 100-year floodplain, when inundated, provide access to spawning, nursery, feeding, and rearing habitats. The Nuclear Regulatory Commission and Atlas Corporation have stated that 0.5 acres of the 100-year floodplain, and thus critical habitat, of the Colorado River would be permanently lost as a result of leveling of the tailings pile slopes, and that additionally, a small floodplain area would be modified as a result of the relocation of Moab Wash. They have further identified that a considerably larger area would be temporarily modified during construction activities.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Endangered Species Act. Likewise, the future interrelated action of development and implementation of a revised groundwater corrective action plan for the Atlas mill tailings site, will require consultation pursuant to section 7 of the Endangered Species Act.

The Moab area receives intensive seasonal recreational use that is increasing at over 13 percent yearly and is expected to continue. There may be additional demands for water placed on the water supply and new developments in and around the Colorado River floodplain. Additionally, recreational use of the Colorado River is expected to increase with increased visitors to the Moab area. The Service is unaware of any specific State, local or private actions which will occur in the area that could be included under the cumulative effects analysis.

CONCLUSION

Colorado River Fish. After reviewing the current status of the razorback sucker, Colorado squawfish, humpback chub, and bonytail chub, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is likely to jeopardize the continued existence of the razorback sucker, humpback chub, bonytail chub and Colorado squawfish, and is likely to destroy or adversely modify designated critical habitat.

It is the Service's biological opinion that implementation of the proposed action: (1) is likely to jeopardize the continued existence of the Colorado squawfish, razorback sucker, humpback chub, and bonytail chub by depleting water from the Colorado River system and; (2) is likely to jeopardize the continued existence of Colorado squawfish and razorback sucker by degrading water quality and; (3) is adversely modifying designated critical habitat by degrading water quality to the point that it appreciably diminishes the value of designated critical habitat. The Service further concludes that the permanent loss of 0.5 acres and temporary modification of an additional unspecified amount of designated critical habitat will not appreciably diminish the value of designated critical habitat in the survival and recovery of Colorado squawfish and razorback sucker.

Southwestern Willow Flycatcher. It is the Service's biological opinion that implementation of the capping of the tailings pile in place and relocation of Moab Wash, as proposed, is not likely to jeopardize the continued existence of the southwestern willow flycatcher. No critical habitat exists for this species within the action area, therefore, none will be destroyed or adversely modified. However, the proposed action will result in the loss of 0.5 acres of flycatcher habitat, reducing the amount of available habitat for nesting, breeding and migration. The available information indicates that all remaining potential habitat, throughout the flycatchers range, is important to the continued survival of the species. The Service believes that it is reasonable to expect that flycatchers may be nesting on the Atlas property, and that the disturbance associated with capping the pile may result in the loss of a nesting site or nest.

REASONABLE AND PRUDENT ALTERNATIVE

Regulations (50 CFR 402.02) implementing section 7 of the Endangered Species Act define reasonable and prudent alternatives as alternative actions identified during formal consultation, that (1) can be implemented in a manner consistent with the intended purpose of the action, (2) can be implemented consistent with the scope of the action agency's legal authority and jurisdiction, (3) are economically and technologically feasible, and (4) would, the Service believes, avoid the likelihood of jeopardizing the continued existence of the listed species or resulting in the destruction or adverse modification of critical habitat.

The Service's responsibility is to protect, now and long-term, listed fishes in the Colorado River near Moab, to protect designated critical habitat in the river and the 100-year floodplain, and to undertake appropriate actions to promote recovery of listed species. Based on the most recent Oak Ridge

National Laboratory studies undertaken pursuant to agreement with the Nuclear Regulatory Commission and furnished to the Service, the Service believes that the long term release of contaminants into the Colorado River will continue indefinitely with the current groundwater corrective action plan and absent any remedial action other than the proposed capping of the pile in place.

In modeling the pile drainage, Oak Ridge National Laboratory/Grand Junction (1998c) concluded that the bulk of the tailings water would passively drain in 100 years, with 238 years required to reach steady state conditions (where inflow in the form of precipitation, equals outflow or leaching) (ORNL 1998c). It is the Service's opinion that this length of time to reduce contaminant levels in the river and remove the jeopardy to endangered fish would not be biologically and legally acceptable.

Based on subsequent discussions with the Nuclear Regulatory Commission and Atlas Corporation, active drainage of the pile was considered. An active drainage plan would significantly reduce the length of time required to drain the pile, resulting in less contaminated water reaching the Colorado River and a reduction in the length of time contaminated tailings leachate would continue to jeopardize the endangered fish. Atlas Corporation subsequently committed to specific time frames for dewatering the pile to the extent necessary to place the radon and infiltration barrier and meeting water quality standards in the Colorado River. It is the Service's opinion that these time frames, identified below, are based on the best available technology and professional judgement and, appear to be a reasonable approach to removing jeopardy to the endangered fish in the shortest feasible period of time.

A reasonable and prudent alternative, consisting of five (5) parts, has been developed to avoid the likelihood of jeopardy to the endangered Colorado River fishes from Atlas tailings pile contamination, from destruction and adverse modification of critical habitat and from water depletion from the Colorado River. The Service recognizes that removing the jeopardy to the endangered fish from the contaminated leachate will require time and has taken this into consideration in the following reasonable and prudent alternative and in the incidental take statement. However, should the time frames identified below not be met, the Service would reinitiate consultation.

Because this biological opinion has found jeopardy and destruction and adverse modification of critical habitat, the Nuclear Regulatory Commission is required to notify the Service of its final decision on implementation of the reasonable and prudent alternative.

The reasonable and prudent alternative is identified below:

1. While the Nuclear Regulatory Commission has concurred that a Revised Groundwater Corrective Action Plan is necessary for the Atlas site, no specific plan is currently available, nor has one been proposed as part of the action under consultation. This biological opinion identifies that the effects of leaching from the tailings pile, as well as other sources on the Atlas property, is jeopardizing the endangered Colorado squawfish and razorback sucker and adversely modifying critical habitat for one to two miles, depending on flows and other variables. Therefore, a revised groundwater corrective action plan is necessary to reduce leaching from the pile and other sources such that the fish are no longer jeopardized and the habitat is no longer adversely modified. To avoid jeopardy to the listed fishes from leachates seeping to the Colorado River from contaminated groundwater, the Nuclear Regulatory Commission shall:

- a.) require Atlas Corporation to actively dewater the tailings pile to the extent necessary to place the radon barrier and infiltration barrier, which is the final portion of the cap. This is to be accomplished within 30 months from Atlas's receipt of Nuclear Regulatory Commission approval of the dewatering design. Any water actively withdrawn from the pile must be disposed of in a manner that will not result in impacts to listed species;

- b.) require Atlas Corporation to cleanup contaminated groundwater to the extent necessary to meet relevant standards within 7 years from Atlas's receipt of Nuclear Regulatory Commission approval of the revised groundwater corrective action plan. Any accepted groundwater remediation plan must be designed to achieve cleanup in the shortest feasible period of time, and be designed to minimize the mixing zone in the Colorado River. Relevant standards shall include the ammonia concentrations as identified below as well as other constituents regulated by the Nuclear Regulatory Commission and surface water quality standards for the protection of aquatic life as identified in Utah Administrative Code 51-317 dated December 19, 1997. While several of these constituents are not specifically known to individually jeopardize the endangered fish at levels identified below the Atlas tailings pile, as previously identified under the "Effects of the Proposed Action", the synergistic and/or additive effects of elevated concentrations of the known tailings contaminants may be adversely affecting Colorado squawfish and razorback sucker, and;

c.) expedite approvals of Atlas's barrier design and revised groundwater corrective action plan so that jeopardy to the listed species is removed within 10 years from receipt of this final biological opinion and;

d.) reinstitute consultation with the Service for those portions of any revised groundwater program that may affect endangered or threatened species.

e.) monitor surface water quality in the Colorado River at and downstream of the Atlas site as necessary to insure compliance with the above time frames and ammonia standards identified below. Reports of the monitoring shall be supplied to the Service's Salt Lake City Field Office annually.

2. The leachate constituent of most significant concern to the Service is ammonia. The fact that the proposed action did not specifically address ammonia, and that initially during consultation it was uncertain what levels of ammonia in the water would remain after the proposed action was implemented, it was not possible for the Service to conclude that ammonia concentrations would be reduced to levels that would remove jeopardy to the endangered fish. To assure that ammonia levels will be reduced to levels avoiding future jeopardy to the endangered fish, the Nuclear Regulatory Commission shall incorporate, whether by order or through the request of Atlas Corporation, ammonia as a new constituent in the license held by Atlas Corporation. The Nuclear Regulatory Commission shall require Atlas Corporation to meet the following ammonia standards for surface water at and below the Atlas tailings pile:

- a.) The chronic toxicity standard of 0.38 mg/l (see Appendix A for an explanation of this number) total ammonia as N shall not be exceeded in the Colorado River outside of the mixing zone as allowed by the State of Utah water quality standards for the protection of aquatic life. These standards are promulgated in R317-2-5 and allow for the following mixing zone: "A mixing zone is a limiting portion of a body of water, contiguous to a discharge, where dilution is in progress but has not yet resulted in concentrations which will meet certain standards for all pollutants. At no time, however, shall concentrations within the mixing zone be allowed which are acutely lethal as determined by bioassay or other approved procedure...The size of the chronic mixing zone shall not exceed 2,500 feet." The 2,500 foot mixing zone shall begin at the most upstream point in the Colorado River

where ammonia levels begin to increase as a result of the contaminant plume from the Atlas tailings pile.

An acute toxicity standard of 1.93 mg/l total ammonia as N (see Appendix A for explanation of number) at the point of emergence shall not be exceeded in the Colorado River at or below the Atlas tailings pile. This acute standard shall not allow for any mixing zone because a mixing zone for an acute level of contaminant would, by definition, allow lethal levels at the point of emergence and into the plume, causing an undetermined level of mortality. This would be contradictory to the requirements of the Endangered Species Act in that the Service cannot permit an action that affirmatively causes take.

The acute and chronic standards were developed using average pH (8.5) and temperature (22° C) values in the river during the period larval fish would be present. However, the standards shall be applied throughout the year as juvenile and adults may be present at other times of the year. Should pH values higher than 8.5 be encountered in the river, the toxicity of ammonia would increase and these standards would no longer be valid. In such a scenario, the Utah State water quality standards should be applied.

The standards identified above were not intended to relieve the Nuclear Regulatory Commission or Atlas Corporation of their responsibility to meet other State and Federal standards. These values are only identified by the Service here to inform the Nuclear Regulatory Commission and Atlas Corporation of concentrations that would remove jeopardy to the endangered fish in the Colorado River.

These standards may be refined by the bioassay studies that will be conducted (see below). Any change to these standards will be made when the Nuclear Regulatory Commission reinitiates consultation with the Service on the revised groundwater corrective action plan.

- 3.) As previously stated, the Service has determined that leachate from the pile, and other sources on the Atlas property, is jeopardizing the continued existence of the Colorado squawfish and razorback sucker and adversely modifying critical habitat. The Service recognizes that the current state of knowledge does not support definitive comprehensive standards for all contaminants which could be applied to protect listed species from jeopardy at this site (for example, pH levels significantly affect the ammonia toxicity in the river and the standard is subject to

pH levels). It is clear that the Colorado River at the Atlas tailings pile is a temporally and spatially sensitive environment, and that additional information may be helpful to finalize the revised Groundwater Corrective Action Plan. In order to more effectively determine cleanup levels required to remove jeopardy to listed species, the Service has initiated previously planned bioassay studies. These bioassay studies will be conducted by the Columbia Laboratory of the Biological Resources Division, U.S. Geological Survey and shall be initiated in July 1998. Various life stages of the endangered fish and/or surrogate species will be tested with groundwater and nearshore river surface water from areas potentially inhabited by endangered fish, at and below the Atlas tailings pile. Further studies will be conducted in the laboratory to determine levels of ammonia required to remove jeopardy to the endangered fish. Bioassay studies will be structured to give a rapid assessment of the cumulative effects of the contaminant plume on endangered fish and will also focus on developing an acute and chronic ammonia standard at the site. Such studies will also provide more specific information about the reduction in contaminant levels required to remove jeopardy to the endangered species.

In order to effectively conduct these studies the Service, and other personnel participating in the study, will require access to the Atlas property to carry out the study. The Nuclear Regulatory Commission shall ensure that access is permitted to the site for purposes of conducting the study. Furthermore, the Service invites and encourages the Nuclear Regulatory Commission and Atlas Corporation to participate in the study by providing funding and technical expertise.

- 4.) Nuclear Regulatory Commission regulations allow for the establishment of alternate concentration limits at the point of compliance when background concentrations and/or acceptable hazard levels "may not be practically achievable at a specific site." (10 CFR part 40, Appendix A, criterion 5B(6)). Alternate concentration limits must not only protect human health but also must protect listed fishes. Therefore, the Nuclear Regulatory Commission shall consult with the Service, pursuant to section 7, before establishing alternate concentration limits, and exceptions thereto, at the site. The bioassay studies discussed above will help determine if alternate concentration limits can be allowed without jeopardizing endangered species.
- 5.) Under the proposed action, the Nuclear Regulatory Commission has identified an average annual water depletion to the Colorado River of 154.3 acre-feet. In addition to the above, the Service has developed

the following reasonable and prudent alternative to deal with water depletion impacts to the four endangered Colorado River fishes.

On January 21-22, 1988, the Secretary of the Interior; the Governors of Wyoming, Colorado, and Utah; and the Administrator of the Western Area Power Administration were cosigners of a Cooperative Agreement to implement the "Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin" (USFWS 1987). An objective of the Recovery Program was to identify reasonable and prudent alternatives that would ensure the survival and recovery of the listed species while providing for new water development in the Upper Basin.

The following excerpts are pertinent to the consultation because they summarize portions of the Recovery Program that address depletion impacts, section 7 consultation, and project proponent responsibilities:

"All future Section 7 consultations completed after approval and implementation of this program (establishment of the Implementation Committee, provision of congressional funding, and initiation of the elements) will result in a one-time contribution to be paid to the Service by water project proponents in the amount of \$10.00 per acre-foot based on the average annual depletion of the project This figure will be adjusted annually for inflation [the current figure is \$13.81 per acre-foot] Concurrently with the completion of the Federal action which initiated the consultation, e.g., . . . issuance of a 404 permit, 10 percent of the total contribution will be provided. The balance . . . will be . . . due at the time the construction commences"

It is important to note that these provisions of the Recovery Program were based on appropriate legal protection of the instream flow needs of the endangered Colorado River fishes. The Recovery Program further states:

". . . it is necessary to protect and manage sufficient habitat to support self-sustaining populations of these species. One way to accomplish this is to provide long term protection of the habitat by acquiring or appropriating water rights to ensure instream flows Since this program sets in

place a mechanism and a commitment to assure that the instream flows are protected under State law. the Service will consider these elements under Section 7 consultation as offsetting project depletion impacts."

Thus, the Service has determined that project depletion impacts, which the Service has consistently maintained are likely to jeopardize the listed fishes, can be offset by (a) the water project proponent's one-time contribution to the Recovery Program in the amount of \$13.81 per acre-foot of the project's average annual depletion, (b) appropriate legal protection of instream flows pursuant to State law, and accomplishment of activities necessary to recover the endangered fishes as specified under the Recovery Implementation Program Recovery Action Plan. The Service believes it is essential that protection of instream flows proceed expeditiously, before significant additional water depletions occur.

With respect to (a) above (i.e., depletion charge), the applicant will make a one-time payment which has been calculated by multiplying the project's average annual depletion (154.3 acre-feet) by the depletion charge in effect at the time payment is made. For Fiscal Year 1998 (October 1, 1997, to September 30, 1998), the depletion charge is \$13.81 per acre-foot for the average annual depletion which equals a total payment of \$2,131 for this project. This amount will be adjusted annually for inflation on October 1 of each year based on the previous year's Composite Consumer Price Index. The Service will notify the applicant of any change in the depletion charge by September 1 of each year. Ten percent of the total contribution (\$213), or total payment, will be provided to the Service's designated agent, the National Wildlife Foundation at the time of issuance of the Federal approvals from the Nuclear Regulatory Commission. The balance will be due at the time the construction commences. The payment will be included by the Nuclear Regulatory Commission as a permit stipulation. Fifty percent of the funds will be used for acquisition of water rights to meet the instream flow needs of the endangered fishes (unless otherwise recommended by the Implementation Committee); the balance will be used to support other recovery activities for the Colorado River endangered fishes. All payments should be made to the National Fish and Wildlife Foundation.

National Fish and Wildlife Foundation
1120 Connecticut Avenue, Suite 900
Washington, D.C. 20036

In a letter dated July 23, 1998, the Atlas Corporation agreed to this payment (Appendix C).

Each payment is to be accompanied by a cover letter that identifies the project and biological opinion that requires the payment, the amount of payment enclosed, check number, and any special conditions identified in the biological opinion relative to disbursement or use of the funds (there are none in this instance). The cover letter also shall identify the name and address of the payor, the name and address of the Federal Agency responsible for authorizing the project, and the address of the Service office issuing the biological opinion. This information will be used by the Foundation to notify the payor, the lead Federal Agency, and the Service that payment has been received. The Foundation is to send notices of receipt to these entities within 5 working days of its receipt of payment.

In order to further define and clarify processes outlined in sections 4.1.5, 4.1.6, and 5.3.4 of the Recovery Program, an additional section 7 agreement and Recovery Plan addressing section 7 consultation on depletion impacts was developed (USFWS 1993b). The section 7 agreement establishes a framework for conducting all future section 7 consultations on depletion impacts related to new projects and those associated with historic projects in the Upper Basin. Procedures outlined in the section 7 agreement will be used in conjunction with the Recovery Plan to determine if sufficient progress is being accomplished in the recovery of the endangered fishes to enable the Recovery Program to serve as a reasonable and prudent alternative to avoid jeopardy. The Recovery Plan was finalized on October 15, 1993, and is reviewed annually.

In accordance with the agreement, the Service has agreed to assess impacts of projects that require section 7 consultation and determine if progress toward recovery has been sufficient for the Recovery Program to serve as a reasonable and prudent alternative. If sufficient progress is being achieved, biological opinions will be written to identify activities and accomplishments of the Recovery Program that support it as a reasonable and prudent alternative. If sufficient progress in the recovery of the endangered fishes has not been achieved by the Recovery Program, actions from the Recovery Plan will be identified which must be completed to avoid jeopardy to the endangered fishes. For historic projects, these actions will serve as the reasonable and prudent alternative as long as they are completed according to the schedule identified in the Recovery Plan. For new projects, these actions will

serve as the reasonable and prudent alternative so long as they are completed before the impact of the project occurs. The Atlas mill tailings reclamation project is considered a new project.

The evaluation by the Service to determine if sufficient progress has been achieved considered (a) actions which result in a measurable population response, a measurable improvement in habitat for the fishes, legal protection of flows needed for recovery, or a reduction in the threat of immediate extinction; (b) status of fish populations; adequacy of flows; and (d) magnitude of the project impact. In addition, the Service considered support activities (funding, research, information and education, etc.) of the Recovery Program if they help achieve a measurable population response, a measurable improvement in habitat for the fishes, legal protection of flows needed for recovery, or a reduction in the threat of immediate extinction. The Service evaluated progress separately for the Colorado River and Green River subbasins; however, it gave due consideration to progress throughout the Upper Basin in evaluating progress toward recovery.

Based on current Recovery Program accomplishments and the expectation that the Recovery Plan will be fully implemented in a timely manner, the Service determined that sufficient progress has been achieved under the Recovery Program so that it could serve as the reasonable and prudent alternative to avoid jeopardy to the endangered fishes by the impacts caused by the water depletion associated with this permit. For historic projects, the responsibility for implementation of all elements of the reasonable and prudent alternative rests with the Recovery Program participants, not the individual project proponent. All actions must be implemented according to the time schedule specified in the Plan. For new projects, the responsibility for implementation of elements of the reasonable and prudent alternative is shared by the Recovery Program and the applicant. Recovery Program participants are responsible for carrying out activities outlined in the Recovery Plan.

The Nuclear Regulatory Commission should condition the permit to retain jurisdiction in the event that the Recovery Program is unable to implement the Recovery Plan in a timely manner. In that case, as long as the lead Federal Agency has discretionary authority over the project, reinitiation of section 7 consultation may be required so that a new reasonable and prudent alternative can be developed by the Service.

The above Reasonable and Prudent Alternative involves time frames that must be met to avoid jeopardy to the endangered fish. Because these time frames are

critical to meeting the stipulations for removing the jeopardy to the endangered fish, the Nuclear Regulatory Commission shall reinitiate consultation if any of the time frames are not met.

INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the Endangered Species Act, as amended, prohibit taking (harass, harm, pursue, hunt, wound, shoot, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish and wildlife without an exemption provided through a permit or biological opinion. Harm is defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns, which include but are not limited to, breeding, feeding, or sheltering. Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are nondiscretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Nuclear Regulatory Commission has a continuing duty to regulate the activity covered by this incidental take statement. If the Nuclear Regulatory Commission (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

AMOUNT OR EXTENT OF TAKE ANTICIPATED

The Service has developed the following incidental take statement based on the premise that the reasonable and prudent alternative will be implemented.

Southwestern Willow Flycatcher

For the purposes of consideration of incidental take of flycatchers by the proposed action, incidental take can be defined as either the direct mortality