

U.S. Department
of Homeland
Security

**United States
Coast Guard**



Director
United States Coast Guard
National Pollution Funds Center

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Number: 7001 1940 0001 6793 7687

DOI Fish & Wildlife Service
ATTN: Ms Anne Badgley
FWS Region 1
911 NE 11th Avenue -- Eastside Complex
Portland, OR 97232-4181

Re: Claim Number: 144002-OI2

Dear Ms. Anne Badgley:

The National Pollution Funds Center (NPFC), in accordance with the Oil Pollution Act (OPA) (33 U.S.C. 2701 et seq.), has determined to pay the claim from the Department of Interior Fish and Wildlife Service (FWS) for natural resource damage (NRD) restoration costs associated with the F/V *Jin Shiang Fa* incident (144002-OI2). We have determined that \$188,913.49 in past emergency restoration costs and \$1,264,004 in future restoration plan implementation costs are compensable. We also note that the claimant withdrew \$50,000 in estimated emergency restoration costs that were included in their original claim. This claim determination is solely for the emergency restoration and restoration plan implementation costs associated with the trustees' activities on this incident, and at the request of the claimant, does not include the assessment costs that have also been filed as a claim to NPFC (144002-OI1) and paid. The rationale for this determination is detailed in the paragraphs that follow.

Jurisdictional Information

We first determined whether the claimed damages arose from an incident covered under the Oil Pollution Act. The incident must involve a discharge of oil or a substantial threat of discharge of oil into navigable waters of the United States after August 18, 1990. On October 14, 1993 the Taiwanese longline fishing vessel F/V *Jin Shiang Fa* ran hard aground on the seaward edge of the southwest arm of Rose Atoll National Wildlife Refuge, American Samoa. The vessel broke up before salvage operation could be initiated, releasing approximately 100,000 gallons of diesel fuel and 500 gallons of lube oil into the waters surrounding Rose Atoll, American Samoa. This

information was provided by the claimant and is supported by POLREPs generated by the Federal On Scene Coordinator and supports our conclusion that this is an Oil Pollution Act incident.

Claimant Eligibility

Following the spill, the NRD Trustees (the Department of Interior Fish and Wildlife Service, the American Samoa Government, and initially the National Oceanographic and Atmospheric Administration) that claimed jurisdiction over the potentially impacted natural resources at the Rose Atoll National Wildlife Refuge initiated a natural resource damage assessment (NRDA). The Rose Atoll National Wildlife Refuge is jointly administered by the Department of Marine and Wildlife Resources of the American Samoa Government and the U.S. Fish and Wildlife Service. U.S. Fish and Wildlife Service and American Samoa determined during their preassessment (funded by an Initiate Request) that natural resources under their trusteeship may have been, or may be, injured as a result of the incident. The F/V *Jin Shiang Fa* was the only asset of the responsible party (RP), Jin Ho Ocean Enterprise Company, which disbanded in May 1994 according to State Department information, and thus no claim was submitted to the company for payment. The trustees conducted pre-assessment screens with Initiate Funding provided by the NPFC to investigate whether natural resources had been injured due to the oil spill. As a result of their initial natural resource damage findings, the trustees proceeded to conduct an assessment to determine the nature and extent of the injuries due to the oil spill and develop a restoration plan to address the damages.

Claim Presentation

The original natural resource damage claim submitted by FWS, acting as the lead administrative trustee, was received by NPFC on June 27, 2001. It was composed of a cover letter, supplemental claim information, a final restoration plan, a damage assessment report and thirteen packets of cost documentation. The initial review of the claim established that the claim was based on an Oil Pollution Act of 1990 (OPA)-covered source discharge into a navigable water of the United States. The claim was submitted within the appropriate statute of limitation. According to the NRDA regulations (15 CFR 990), the last step in a NRDA is development of the Final Restoration Plan, and any judicial actions or claims must be made within three years after the Final Restoration Plan is made publicly available. A public notice announcing the availability of the Draft Restoration Plan was printed in the Samoa Post on April 16, 2000. The Final Restoration Plan in this claim was published in May 2001, effectively completing the NRDA. Since we have found that this NRDA was conducted in accordance with the NRDA regulations at 15 CFR 990, the claim was therefore submitted within the extended statute of limitation provided by 15 CFR 990.64(b) (three years from the date of completion of the NRDA conducted in accordance with the NRDA regulations). Finally, we found that this claim can be reviewed by the NPFC since it is pursuant to a plan as defined under 33 USC 2706(c). That plan is the "Final restoration plan for Rose Atoll National Wildlife Refuge" produced by the U.S. Fish and Wildlife Service and submitted for public review in the Samoa Post on April 20, 2000.

In a letter from FWS dated July 19, 2001, we were requested to review the claim in three separate parts. The breakdown of all the claimed costs that are detailed in the July 19, 2001 letter from FWS are listed in the attached table. We responded with a letter dated September 17, 2001 in which we decided to assign all assessment costs claimed to claim number 144002-OI1.

All other natural resource damages associated with this incident were assigned to a second claim, 144002-OI2. At the time these costs included emergency restoration and restoration costs totaling \$1,327,894.95. During our review we encountered difficulty reconciling your claim of \$180,116.95 in emergency restoration costs. You responded with additional documentation in a letter dated October 24, 2001 and indicated that emergency restoration costs were actually \$188,913.49. This resulted in a revised claim amount of \$1,336,691.49. That amount was then reduced to \$1,286,691.49 when FWS withdrew \$50,000 in emergency restoration in a letter we received on May 9, 2002. In the final letter we received on April 1, 2003, the claimant added \$567,220 to address contingency planning for the restoration plan. The final sum certain we are therefore reviewing for claim number 144002-OI2 is \$1,853,911.49.

Adherence to NRDA Regulations

The main focus of this claim review is to determine whether the emergency restoration and restoration plan was developed in accordance with the NRDA regulations at 15 CFR 990, since the claimant certified that the natural resource damage assessment and restoration for this claim was conducted in accordance with the applicable regulations of 15 CFR 990, and the time of filing necessitated reliance on the extended statute of limitations under 15 CFR 990.64(b). In our determination for claim number 144002-OI1 dated October 21, 2002, we found that the natural resource damage assessment conducted for the F/V *Jin Shiang Fa* incident was in accordance with the applicable regulations of 15 CFR 990. Therefore, the focus of this claim review will be on the emergency restoration and restoration plan.

In claim number 144002-OI1 we determined that the natural resource damage assessment was conducted in accordance with the NRDA regulations at 15 CFR 990. That review for claim number 144002-OI1 concluded that the following activities listed in 15 CFR 990 were conducted:

1. Determination to pursue restoration under OPA (15 CFR 990.41)
2. Determination to conduct restoration planning (15 CFR 990.42)
3. Coordination with trustees, response agencies and the public (15 CFR 990.14)
4. Determination and quantification of injuries (15 CFR 990.51-990.52)/Assessment Methodology (15 CFR 990.27).
5. Publication of a Notice of Intent to Conduct Restoration Planning (15 CFR 990.44)
6. Opening of an administrative record (15 CFR 990.45)
7. Reasonableness of costs (33 USC 2706 (d)(1)(c), 15 CFR 990.30, 33 CFR 136.211)

Restoration Plan

In order to determine if the restoration plan is also conducted in accordance with the NRDA regulations at 15 CFR 990, we must review the claim for several other criteria. Specifically, the claim was reviewed to insure that the following activities listed in 15 CFR 990 were conducted:

1. Injury was determined (15 CFR 990.51)
 - a. Exposure and pathway where established
 - b. Appropriate injuries were selected
 - c. Injuries resulted from the incident
2. Range of feasible restoration alternatives was identified (15 CFR 990.53)

3. Restoration alternatives were evaluated and the preferred alternative was selected (15 CFR 990.54)
4. Draft Restoration Plan and Final Restoration Plan were developed (15 CFR 990.55)
5. Reasonable restoration costs were estimated

Upon review of the claim, the restoration plan documented in this claim was found to be in accordance with the NRDA regulations. The following paragraphs detail how we came to that conclusion.

Injury Determination

We first examined the natural resource damage assessment to determine whether the trustees adequately determined natural resource damages resulting from the F/V *Jin Shiang Fa* incident. This involves both establishing that natural resources were exposed to the discharge of oil from the incident, as well as, providing the pathways linking the exposure to injuries. Trustees must also determine whether injuries had occurred and identify the nature of those injuries. Then these injuries must be linked back to the actual oil pollution incident. A detailed review of the injury determination is especially important for this claim, since in addition to a release of oil, there were other non-OPA compensable disturbances.

The FWS reports that the F/V *Jin Shiang Fa* incident released 100,000 gallons of diesel and 500 gallons of lube oils as a result of the ship grounding on the southwest arm of Rose Atoll. The 1997 report produced by FWS stated that based on the USCG video shortly after the grounding, it appeared that the contaminants moved “consistently across the reef flat and into the lagoon by the force of the prevailing waves and currents (Molina 1994). The spill also appeared to flow away from the atoll in northwesterly and southeasterly directions on different days depending on the prevailing weather conditions (Molina 1994). This suggests that the spilled chemicals were distributed along the outer reef slope and reef flat on the southwest arm of the atoll, as well as in the lagoon (Molina 1994).” FWS went on to say that entrapped oil was recorded along a 630 m stretch of reef flat on the southwest arm, which extended 190 m southeast and 440 m northwest of the wreck (Molina 1994). Observations showed that oil persisted on sunken oily debris and in the reef matrix at least 2-3 weeks after grounding (Molina 1994). From the Spill Preassessment Screen (USFWS 1996) it was stated, “In late October/November 1993, Trustee scientists noted sheens over reef, sunken oily debris, oil trapped in coral rubble/sediments (Molina 1994). Significant oil was reported to remain trapped in coral rubble”. Barclay (1993) reported a summary of reef surveys taken during his trip to Rose Atoll from November 28 to December 9, 1993 in which he observed that a diesel odor was detected in the rubble up to 600 meters north of the grounding site. Our review of a USCG MSO video of the F/V *Jin Shiang Fa* hard aground shows substantial oil sheening around the vessel. We find that there is sufficient evidence indicating that natural resources were indeed exposed by oil from the F/V *Jin Shiang Fa* incident.

Given the nature of diesel, it is presumed that much of the oil dispersed in the highly turbulent and shallow environmental at Rose Atoll. In terms of toxicity to water-column organisms, diesel is considered to be one of the most acutely toxic oil types. Fish, invertebrates and algae that come into direct contact with a diesel spill may be killed (information based on NOAA’s website <http://response.restoration.noaa.gov/oilaid/diesel.pdf>). Lube oils tend to have lower

concentrations of the toxic BTEX and PAH fractions relative to diesel (Potter et al. 1998), and are, accordingly, generally not as toxic as diesel oil mixtures. Therefore, due to the relatively small quantities of lube oil released relative to released diesel fuel, and the difficulties in separating out toxic impacts unique to each of the two spilled petroleum substances, the analysis of injuries focused on impacts caused by diesel oil.

In addition to the release of petroleum products, there are other non-OPA disturbances that must be factored into our review. There was the potential that ammonia from the vessel's refrigerant system was released. If ammonia was released, we might expect that about 30 percent of it volatilized into the air based on a paper by Raj and Reid (1978). Based on that same study, it is expected that the ammonia that entered the water column would form a dilute ammonium hydroxide solution that would likely be buffered by highly mixed seawater. Therefore, we do not expect there were any significant natural resource injuries from the ammonia release.

The physical impact of the grounding of the vessel and the debris scattered by the breakup of the vessel also had an impact on the natural resources of the reef. FWS cited Molina's 1995 report that estimated that there was 1,200 m² of spur damage including the area directly beneath the resting vessel. The injury consisted of tops of spurs sheared flat and smooth and the substrate pulverized. All was killed beneath.

The vessel breakup in November 1993 and subsequent removal efforts in November and December of 1993 caused scarring, abrasion of the reef and the scattering of sediments. In terms of sediments, information gleaned from the trustee's reports indicates the grounding, associated sediments, and associated berms alone conservatively impacted:

- 1,200 m² from grounding;
- 3,750 m² from reef slope sediments;
- 10,000 m² – 20,000 m² from reef flat sediments; therefore
- 14,950 m² – 24,950 m² total grounding and sediments.

We compared this damage to the USFWS (1997) report that indicated trustees observed in November and December 1993 that petroleum contamination had "significantly impacted a section of reef measuring at least 1,000 m by 500 m" (500,000 m²). Consequently the petroleum impact was at least an order of magnitude greater than the physical effects of the grounding.

Petroleum exposure impacts included bleached and dead coral and coralline algae, dead giant clams and other invertebrates, reduced fish biomass (and modified species diversity), and cyanobacteria and articulated coralline algae growth. There was an obvious gradient in reef-flat sea urchin abundance reported.

A bloom of cyanobacteria and other algae appeared following the grounding. In other oil spill incidents or even physical disturbances, a bloom is common and appears to be the result of opening up of bare substrate and removal of herbivores. The physical grounding, resultant sedimentation, and petroleum opened up bare substrate. However, because oil spillage resulted in the most extensive impacts, it can be considered a primary causative factor for natural resource injuries in this incident.

The literature indicates petroleum has the potential to be detrimental to crustose coralline algae, especially when in direct physical contact and especially in tidal situations. At Rose Atoll highly toxic diesel was entrained in the nearshore, shallow subtidal and intertidal zones, resulting in probable exposure by crustose coralline algae, fish and invertebrates to toxic levels of aromatic hydrocarbons. In other spills reviewed, however, crustose coralline algae recovery is relatively rapid, often within one or two years (e.g. as seen at the Bahia Las Minas and *Sea Empress* oil spills in Panama and Wales, respectively). Crustose coralline algae recovery has not been as fast at Rose Atoll. Nevertheless, available information from the trustee's surveys indicates that the crustose coralline algae is recovering to some extent and that the presence of opportunistic algae is decreasing somewhat.

The persistence of the cyanobacteria and articulated coralline algae bloom is considered by the trustees to have been caused by increased iron from rusting debris. The literature suggests it is possible that cyanobacteria and articulated coralline algae may be iron limited and promoted when iron is in greater supply. It is probable that the cyanobacteria has prevented the recolonization of crustose coralline algae in areas that were damaged or killed by diesel exposure. Healthy populations of many corallines typically shed sheets of epithallial cells that peel back from the surface of the living thallus cells. Epithallial sloughing plays a role in preventing the colonization of algae by the periodic shedding of the surface layers where the microbial stages of algae settle (Keats 2001). Therefore, it is unlikely cyanobacteria overgrew healthy patches of crustose coralline algae. Spores of crustose coralline algae germinate on hard surfaces in most species (Johansen 1981). Therefore, it is likely that cyanobacteria growing on hard substrate may prevent the successful colonization of new crustose coralline algae in impacted areas. In addition, the reduction in herbivores as a result of the incident may also be contributing to the persistence of the cyanobacteria and articulated coralline algae blooms.

The trustees have demonstrated that natural resources were exposed to diesel. It is evident that natural resource impacts to the crustose coralline algae population, corals, sea cucumbers, giant clams and possibly fish occurred. The most significant disturbance to the reef was from the toxic diesel fuel that likely diffused through the water column. We find that the petroleum released from the F/V *Jin Shiang Fa* was a primary causative agent in the ecological impacts observed at Rose Atoll resulting from this incident.

Restoration Alternatives

In accordance with 15 CFR 990.53 the trustees considered several restoration alternatives. The trustees first considered natural recovery, but the trustees "believe the data collected on the oil spill injured natural resources at Rose Atoll during the past several years clearly show that these resources are not returning to their pre-spill conditions via natural recovery". We agree with these findings. Given the time that has elapsed since the incident, it is apparent that crustose coralline algae has not returned to its pre-spill abundance and is unlikely to do so in the near future without some form of intervention.

The trustees focused on three primary restoration alternatives in their plan. They considered compensatory restoration as required by 15 CFR 990.53(c), but they determined that there were no compensatory restoration actions available on Rose Atoll at this time. It is difficult for the trustees to estimate lost ecological services for compensatory restoration since damages are still

ongoing, and it is difficult and costly to precisely determine the lost ecological services quantitatively in such a remote location. This is why it was reasonable for the trustees to focus on primary restoration when developing their plan.

The three primary restoration alternatives considered by the trustees include additional removal of metal debris from the site, manual removal of cyanobacteria with the transplantation of crustose coralline algae, and the reintroduction of marine invertebrates such as boring sea urchins, sea cucumbers and giant clams. We find that this is a reasonable range of alternatives that were considered. They cover the options of trying to reduce the iron that might be promoting cyanobacteria growth, physical intervention and increasing herbivores.

Selection of the Preferred Alternative

In accordance with 15 CFR 990.54, the trustees developed a set of evaluation standards for each alternative. The trustees list six questions in their restoration plan that correspond to the criteria in the regulations. These six questions are as follows:

- The likelihood of success – will the alternative return the reef to its pre-spill conditions?
- Will the alternative prevent future injury or cause collateral injury?
- Will the alternative benefit multiple injured natural resources?
- Will the alternative cause a public health or safety problem?
- Can the Trustees establish meaningful performance criteria to evaluate the progress/success of the alternative?
- What are the projected costs and are they reasonable in relation to the expected benefits?

The trustees considered the manual removal of opportunistic species and the transplantation of crustose coralline algae. However, the trustees concluded that this restoration alternative is not the most practical and appropriate option at this time. They believed that this approach would have little to no long-lasting effect if water iron levels remain elevated, since it is possible that iron is enhancing cyanobacteria growth. Also, the widespread growth of cyanobacteria would make the manual removal of algae a very difficult and costly task. Furthermore, the transplanting of crustose coralline algae is risky given that there is no certainty that the opportunistic cyanobacteria will not rapidly overgrow the transplanted crustose coralline algae. We find that the trustees adequately considered this option.

They also considered the reintroduction of marine invertebrates. There were two main reasons why this alternative was not selected. The trustees determined that the physical barrier of the cyanobacteria would reduce the chance juvenile invertebrates would settle and survive. They also were hopeful that the very high fecundity of sea urchins and sea cucumbers would allow them to naturally recolonize the impacted areas once the mats of cyanobacteria are removed. The trustees also acknowledged that the technical and logistical expertise to artificially propagate giant clams is lacking. The trustees adequately considered this option, but found the removal of metal debris to be the preferred option.

The trustees considered and selected their preferred option of metal debris removal as a result of their research findings, which indicated that the persistent cyanobacteria and articulated coralline algal blooms could be artificially maintained and enhanced by the elevated iron levels in the water that are a result of the corrosion from the remaining metal ship debris. The trustees state,

“Although there is limited direct evidence to explain exactly what factors are promoting the bacteria and articulated coralline algal bloom at Rose Atoll, marine chemists and ecologists contacted by the Trustees agreed that the additional iron present in the ecosystem may be the primary causative factor. Thus, removal of the metal debris and thereby the additional iron, appears to be the most viable restoration option available to return the atoll to its pre-spill conditions.”

If this project is successful, the return of a crustose coralline dominated surface will likely also allow the marine invertebrate and fish communities to return to pre-spill levels. The trustees acknowledge that the restoration activities under this option could potentially disturb reef organisms in the area where restoration activities are being conducted, but trustees have listed techniques for minimizing this potential and will be providing oversight of the restoration activities on the atoll to ensure minimal detrimental impacts. Since the atoll is closed to the public, restoration will have no impact on public health or safety.

The trustees have established a performance standard for this restoration project. “Restoration will be considered satisfactory when greater than 80 percent of the monitoring sites in the impacted area return to these un-impacted reference site levels.” The un-impacted baseline conditions at Rose Atoll show that crustose coralline algae typically covers from 50 to 80 percent of the reef substrate.

The trustees reviewed their preferred restoration alternative using the six questions they developed based on the natural resource damage regulations at 15 CFR 990.54. This also included a projection of costs that we will review in detail later in this determination. We find that trustees consideration of restoration alternatives to be adequate and satisfies the requirements of 15 CFR 990.54.

Restoration Plan

A public notice announcing the availability of the Draft Restoration Plan was printed in the Samoa Post on April 16, 2000. No public comments were submitted. The Final Restoration Plan in this claim was published in May 2001.

The restoration plan includes all the necessary components listed in 15 CFR 990.55(b). These components include a summary of the assessment procedures used, a description of the injuries, the goals and objectives of the restoration, the restoration alternatives considered, the evaluation of those alternatives, identification of the preferred alternative, a description of the involvement of responsible parties and a description of restoration monitoring.

The contingency component of the restoration plan was further detailed and expanded in a letter we received from the claimant on April 1, 2003. The trustee submitted this amendment to their claim for the following three reasons:

1. The trustees determined that their preferred restoration alternative, complete removal of the metallic debris, may not be fully successful in returning the injured crustose coralline algal community to the conditions that should exist had the oil spill not occurred.
2. The trustees recently became aware the restoration claim process at the NPFC is a final sum certain process.

3. The trustees determined that their previous submitted restoration proposal includes insufficient funding to cover reasonably anticipated additional work that they may need to perform at Rose Atoll to achieve their restoration goals.

Given the uncertainty in the scientific literature concerning the impacts that iron removal will have on the cyanobacteria mats and the regrowth of crustose coralline algae, we find the trustees decision to consider specific contingency actions to be prudent.

We have determined that the removal of macro *Jin Shiang Fa* debris at Rose Atoll is reasonable. Recent information from the claimant provided during a telephone conversation in March 2003 states that previously scraped reef areas (i.e. during the vessel grounding) are recovering but not completely recovered. This claimant observation, albeit qualitative in nature, provides a better understanding of the claimant's statement in its January 2003 response to our questions that minimal (and recoverable) impacts to the reef are projected to occur due to the removal of larger debris pieces (i.e. the engine block and drive train assemble). Consistent with the claimants stated plan, every effort should be made by the claimant to minimize impacts to Rose Atoll reefs during debris removal such as, but not solely, through lifting of debris from the reef, rather than dragging debris across the reef. Although additional disturbances will be created by the trustees debris removal actions, similar areas scraped during the grounding are recovering, and therefore, it is likely that the debris removal will likely result in a net benefit to the reef community.

The trustees also proposed a contingency that involved iron-laden sediment removal through the use of a modified hydraulic vacuuming system. Sediment vacuuming is proposed only as a contingency plan in the event that debris removal does not result in acceptable reef recovery. We find that this contingency is consistent with the restoration plan. We agree with the trustees proposed contingency and find that vacuuming sediments may be an effective technique in small metallic debris removal under the following conditions:

- A marine geochemist be involved in determining the need for sediment removal and, if required, identifying areas where sediments should be removed because of increased iron loading.
- Iron II/III (i.e., not just total iron) should be measured as needed (e.g., to identify "hot spots" requiring removal)
- Removal does not occur in areas where significant biological recolonization is already occurring, so as not to disturb ongoing recovery.
- Sediment removal apparatus that is used must be able to be precisely positioned and to remove sediments desired specifically, not generally over a broad area.
- Sediments and waters removed must be contained, and appropriately disposed of offshore, not simply removed from the reef flat and discharged into the water column so that it is allowed to spread to other areas of the reef.
- A small-scale experiment is strongly recommended to guide decision-making on the utility of sediment removal.

Another contingency project in the April 1, 2003 letter, proposes to remove cyanobacterial mats if they still exist at Rose Atoll three or more years after large debris removal. This new contingency is consistent with the final restoration plan. The final restoration plan discussed the option of physically removing mats, but determined that this would only be effective after the removal of iron. Our review of recovery data we collected from the trustee in January and

March of this year (i.e., from 1995 through 2002) results in a significant concern that continued disturbance of the reef faces can actually slow or reverse reef recovery through baring reef substrate and creating an environment where pioneer species (e.g., cyanobacterial mats) can thrive. It also might be that physical disturbance of the mats may cause additional dispersal of spores. Given that cyanobacterial removal through scraping as a successful technique has not been demonstrated through any kind of study at Rose Atoll, and the likely potential to create more disturbance (hence subsequent additional cyanobacteria recruitment) and cyanobacteria propagation (i.e., accelerating the spread of invasive cyanobacterial species), we recommend that a small-scale experimental study at Rose Atoll be conducted to determine the effectiveness and relative impacts caused by this contingency restoration technique.

Also in the April 1, 2003 letter, you request funding for three additional years of monitoring. Given that the original final restoration plan only provides for a 10-year monitoring program, we consider this a major deviation from the publicly reviewed restoration plan that would require a reopening of the restoration plan to public comment. Therefore, we must deny this request.

Barring the request for additional monitoring, we find the restoration plan to have been developed in accordance with 15 CFR 990. The restoration plan was publicly reviewed and contains all the components required by the natural resource damage regulations.

Restoration Costs

The final step in the restoration plan review involves determining the reasonableness of the claimed future restoration costs. The claimant originally requested \$1,097,778 to implement the restoration plan including indirect costs (\$968,272 in direct costs). In addition, on April 1, 2003 we also received a request for \$567,220 including indirect costs (\$488,100 in direct costs) to address reasonably anticipated contingencies. We will begin by examining the originally submitted costs.

Many of the cost estimates used in developing the restoration plan costs can be directly compared to the actual cost incurred during emergency restoration. We therefore compared cost categories such as daily support vessel costs, airfare and lodging to the actual receipts for those cost categories in the emergency restoration and assessment cost documentation. We found the cost rates to be consistent to past costs.

A few new costs included in the restoration plan could not be compared directly to past emergency restoration and assessment costs. Given the remote location of Rose Atoll and the logistics of bringing personnel and supplies to the site, it is difficult to directly compare the future restoration costs for this incident with other incidents. However, we were able to utilize our library of U.S. Coast Guard Basic Ordering Agreements (BOAs) to compare some of these costs. For example, the trustees estimated that deck hands would cost \$150 per day or \$18.75 per hour if we assume an eight-hour workday. A 1997 BOA we have for a contractor in American Samoa reports a deckhand labor rate of \$25 per hour. The trustees also estimate that divers will cost \$600 per day or \$75 per hour assuming an eight-hour day. This rate is comparable to the biologist rate of \$75 per hour reported in a BOA with a contractor from Guam.

We also examined the remote sensing costs associated with the restoration plan. Since the restoration plan indicated the IKONOS I satellite would be used in the monitoring, we contacted the vendor for that satellite, Space Imaging. From their literature we estimated that the cost of the imagery would likely be between \$3,000 to \$11,000 a year depending on the licensing, spatial accuracy and timing of the imagery. We find the trustees estimate of \$8,000 per year to be reasonable.

The major issue we have with these restoration costs concerns the adjustment of costs for inflation. Restoration monitoring costs were adjusted using a 3% per year inflation rate for 6 biennial trips over 10 years. The regulations at 15 CFR 990.63(a) indicate that discounting must also be conducted if inflation adjustments are to be made to estimated future restoration costs. Since we are providing full compensation upfront for the costs of restoration, we do not find it reasonable to adjust rates for future inflation. The Department of Interior will be able to take the funding we are offering and place it in a restoration fund that is an interest bearing account. The manager of the trust fund can utilize inflation indexed Treasury securities or other Treasury securities to offset future inflation. If trustees are unable to manage their funds for inflation, the NPFC is able to develop a payment plan that will retain funds until future expenditures are incurred. We are therefore denying \$54,915 in direct restoration monitoring costs. Adjusting for indirect rates and the 10% project development costs, we find that the total amount that must be denied as a result of the inflation adjustment is \$59,033.

We must also adjust the project contingency costs since we received an amendment to the claim on April 1, 2003. That amendment detailed the specific contingency projects that would be utilized, and it significantly increased the claimed amount by \$567,220. Given this new information regarding the restoration contingencies, we find that the original flat 10% contingency of \$88,025 has been superseded by the \$567,220 amendment. It would be a double counting of damages to allow both a flat contingency rate and a detailed contingency estimate. We commend the claimant on developing a detailed contingency plan, but we must deny the \$88,025 to avoid double counting of damages.

We now turn our attention to the added contingency costs. Since we did not find the three additional years of field monitoring to be compensable when reviewing its consistency to the published and final restoration plan, we must deny these costs. There are \$213,300 in direct costs and we calculate \$40,636 in indirect FWS and DOI costs associated with the additional field monitoring activities that are denied. We reviewed the remaining contingency costs using the same methods as we did with the other restoration costs. We found them to be reasonable and compensable.

We found \$1,264,004 in restoration costs to be reasonable and compensable. Of the total of \$1,664,998 in restoration costs claimed \$400,994 are denied.

Given that injury of the crustose coralline algae reef community was determined and linked to the incident, a range of restoration alternatives was considered. The preferred restoration alternative of debris removal was selected using the criteria established in 15 CFR 990. This process was reported in a final restoration plan that was presented to the public. We find that the

\$1,264,004 in compensable restoration costs are consistent with the activities required to be in accordance with 15 CFR 990.

Emergency Restoration

This section of the determination will focus on our adjudication of the emergency restoration component of this claim. The emergency restoration actions taken by the trustees involved the removal of metallic debris to address the reduced crustose coralline algae coverage on the atoll as a result of the incident and the increase in cyanobacteria and other algae that followed. The trustees conducted emergency restoration actions in July and August of 1999 that involved the removal of 75 tons of metallic debris from the reef flats, as well as approximately 2 tons of debris from the lagoon according to the “Final Restoration Plan for the Rose Atoll National Wildlife Refuge”. Additional emergency restoration actions in April 2000 resulted in the removal of 30 tons of metallic debris and several tons of fishing gear from the reef slope.

The circumstances surrounding this emergency restoration are unique. While the cyanobacteria bloom is common after an oil spill, other cases have shown marked recovery of crustose coralline algae within two years. Due to the transportation issues with accessing this remote atoll as well as weather issues, there was limited opportunity to observe the injury and lack of recovery. The trustees were not able to get back out to the atoll for field observations with any frequency. Therefore, making the critical conclusion on the role of iron in the cyanobacteria bloom was not reached until 1997. Due to funding constraints and a very limited weather window for accessing this atoll, the trustees were only able to begin the emergency restoration in the summer of 1999.

Typically a plan is required for natural resource restoration claims. However, 33 U.S.C. 2712(j)(2) authorizes NPFC to make an exception “...in a situation requiring action to avoid irreversible loss of natural resources or to prevent or reduce any continuing danger to natural resources or similar need for emergency action.” The Natural Resource Damage Regulations at 15 CFR 990.26 state that trustees may take emergency restoration action before the completion of the formal NRDA process when the following conditions are met:

1. The action is needed to minimize continuing or prevent additional injury;
2. The action is feasible and likely to minimize continuing or prevent additional injury; and
3. The costs of the action are not unreasonable.

Furthermore, 15 CFR 990.26 states that “...trustees must provide notice to the public, to the extent practicable, of these planned emergency restoration actions. Trustees must also provide public notice of the justification for, nature and extent of, and results of emergency restoration actions within a reasonable time frame after completion of such actions. The means by which this notice is provided is left to the discretion of the trustee.” The claim was reviewed to insure that the above conditions for emergency restoration actions were met.

The claimant argues that action was needed to minimize continuing or prevent additional injury. The claimant’s rationale is presented in the “Natural Resource Damage Claim For Rose Atoll, American Samoa - Supplemental Claim Information” section 11. The trustees concluded that the structural integrity of the barrier reef at Rose Atoll was being seriously weakened by the invasive species of algae and cyanobacteria. Furthermore, FWS explained that continued deterioration of

the barrier reef would in turn lead to the destruction of Rose and Sand Islands, a critical nesting habitat for several federally protected birds.

Additional information was provided in a letter from FWS dated November 6, 2002. In this letter, the claimant refers us to page 3 of the Final Restoration Plan where it states “data collected at Rose Atoll NWR in the years following the 1993 oil spill indicated that conditions on the reef were (and still are) continuing to deteriorate.” Funding constraints are the primary reason action was not taken sooner. After exhausting several options, including the Pacific Fleet’s Navy Salvage Operation the FWS Division of Refuges Cleanup Program was able to fund a portion of the emergency restoration action in FY 99.

Crustose Coralline Algae is the principle reef cover at Rose Atoll (Green 1996). Cover by crustose coralline algae on the southeast arm of Rose Atoll is placed at between 50 and 80 percent (J. Burgett) which is consistent with the range reported by several other investigators on undisturbed reefs in both the Pacific Ocean and the Caribbean Sea (Glynn et al. 1996, Matsuda 1989, Adey and Vassar 1975). However, the grounding and release of oil by the F/V *Jin Shiang Fa* drastically altered this. By 1995 the southwest arm of Rose Atoll had become dominated by cyanobacteria (USFWS 1997). The opportunistic algae continued to persist in the southwest arm of Rose Atoll even in 1996 and 1997 (USFWS 1997, USFWS 2001). Based on these observations we agree with the trustees’ finding that emergency action was needed to minimize continuing injury and prevent additional injury.

We must also determine if the metallic debris removal is feasible and likely to minimize continuing injuries. Since the removal of debris has already occurred the feasibility of it is obvious. However, determining if the debris removal will also likely minimize continuing injuries is a more complicated. Enriching seawater with iron has been shown to cause blooms of algae, including cyanobacteria (Coale et al. 1996, Entsch et al. 1983, and Hyenstrand et al. 2000, 2001). Based on this relationship and findings that encrusting coralline algae out compete many other macroalgae under low iron conditions (Matsunaga et al. 1999), the normal strong dominance by crustose coralline algae on mid-oceanic atolls and reef flats is understandable. We also note that the trustees observed a cyanobacteria turf develop downstream from an iron stake placed on the reef flat to mark a sampling location. With the elevated iron levels in the waters of Rose Atoll following the bleaching of crustose coralline algae following diesel fuel exposure and physical disturbance from the grounding of F/V *Jin Shiang Fa*, we find the trustees’ conclusions that iron may be inhibiting recovery to be feasible, and therefore, the removal of iron was a reasonable option to utilize as an emergency restoration activity.

The emergency restoration activity costs were also examined. The review of the cost documentation for this adjudication focuses on the assessment costs incurred in fiscal years 1999 and 2000 that were identified by the claimant to be emergency restoration costs. All time sheets, travel claims, receipts and contracts were reviewed for accuracy, completeness, and reasonableness. Consistency was insured by comparing a summary of all emergency restoration costs provided by the claimant to the amount of each individual invoice. In addition, the incident case file was reviewed to insure that there was no overlap in the costs reported for the assessment claim and Initiate funding.

During the review of the cost documentation, the NRD claims manager was not able to duplicate the reported cost breakdown between the documented assessment costs and the documented emergency restoration costs. Subsequently, the claimant provided a detailed description of the emergency restoration cost allocation in a fax dated October 24, 2001. The revised emergency restoration claim total is \$188,913.49. This total is made up of \$13,599.58 in labor costs, \$6,344.16 in travel costs and \$168,969.75 in contract costs. Once we established that the costs incurred were documented, our focus turned to the “reasonableness” of the claimed emergency restoration costs. Several measures were taken by the trustees that went towards establishing the reasonableness of the emergency restoration costs. First, volunteer labor was utilized in the emergency restoration effort when more costly DOI staff could have performed the restoration. Only one person from FWS was involved with the supervision of the operation, Maragos. He billed only two pay periods for his work on the emergency restoration. Second, the trustees utilized an existing relationship with local American Samoa government agencies to reduce the costs of vessel support given the scarcity of U.S. Coast Guard approved vessels in the area. Both vessels utilized cost less than \$2,000 per day to charter. Finally, the overall debris removal costs for the emergency restoration project are considerably less than the price quoted in the “Emergency Restoration Plan and Environmental Assessment, Pago Pago Harbor, America Samoa”(1999) for the removal of a vessel requiring 6 days of work (\$232,053) by Pacific Environmental Corporation. This is significant since Pago Pago Harbor is a much more easily accessible and less challenging work environment.

Given the remote location of Rose Atoll and the logistics of bringing personnel and supplies to the site, it is difficult to directly compare the emergency restoration costs of this incident with other incidents. However, even when comparing the costs of this emergency restoration project to other restoration projects, as well as claim adjudicators’ knowledge and experience of contracting and current NPFC contracts, we found the emergency restoration costs to be reasonable.

In addition to determining whether emergency restoration can be conducted, the natural resource damage regulations at 15 CFR 990 list public notification requirements for emergency restoration. In reviewing the claim record, we found that the trustees did not notify the public of their intent to conduct emergency restoration. However, the trustees did provide public notice of their justification for emergency restoration, the extent and nature of those actions and their results in the “Final Restoration Plan for the Rose Atoll Nation Wildlife Refuge” published in May 2001. Even though we don’t find the public notification for this emergency restoration to be ideal, it is sufficient and justifiable in this instance given the lack of NPFC guidance regarding emergency restoration claims at the time. In the future, we hope to see trustees notifying the public before emergency restoration actions are taken when feasible. In addition, a separate and more timely report that provides the justification for emergency restoration, the nature and extent of those activities, and their results is recommended.

In conclusion, we find that the emergency restoration was justified and public notification was adequate in this case. We therefore find the \$188,913.49 to be compensable.

The claimant has certified that no suit has been filed that might impact subrogation rights of the United States. As stated on page 3 of the claim cover letter (Dated June 19, 2001), “No actions

have been commenced in court against a responsible party or guarantor of the source designated under OPA." In addition, item 12 of the Supplemental Claim Information attachment to the claim states, "The claimant has not release any responsible party or other persons from liability, in whole or part, for natural resource damages, or other damages or removal costs; and neither has the claimant commenced any action in court against the responsible party."

Restoration funds are to be placed in a revolving trust account. Sums recovered for past emergency restoration costs may be used to reimburse the trustees. All other sums must be used to implement the final restoration plan. NPFC requires that the claimant provide an annual report of activities and expenditures including receipts for those transactions. This will ensure that any unused funds will be accounted for and returned to the Oil Spill Liability Trust Fund upon the complete implementation of a restoration plan and is consistent with 15 CFR 990.65.

Summary

In summary, our thorough review of this claim and the additional information provided by the claimant has resulted in our finding that it adequately meets the criteria set forth in OPA, the NRDA regulations, and the NPFC interim claims regulations. We find the claimant has done an acceptable job of balancing information needs with the desire to limit unnecessary costs given the unique circumstances associated with the remote location of this incident, and enough information has been provided to justify the payment of \$1,452,917.49 in natural resource damage restoration and emergency restoration costs. NPFC had to deny payment of \$400,994 in restoration costs. This completes the adjudication of all the natural resource damage claims for the *F/V Jin Shiang Fa* incident (FPN 144002).

All natural resource damage costs which are not being offered for reimbursement are considered denied. You may make a written request for reconsideration of these claims. The reconsideration must be received by the NPFC within 60 days of the date of this letter and must include the factual or legal basis of the requests for reconsideration, providing any additional support for the claims. Reconsideration will be based upon the information provided and a claim may be reconsidered only once. Disposition of the reconsideration will constitute final agency action. Failure of the NPFC to issue a written decision within 90 days after receipt of a timely request for reconsideration shall, at the option of the claimant, be deemed final agency action. All correspondence should include corresponding claim number.

Mail reconsideration requests to:

Director (cn)
U.S. Coast Guard
National Pollution Funds Center
4200 Wilson Boulevard, Suite 1000
Arlington, VA 22203-1804

If you accept these offers, please sign the enclosed Acceptance/Release Forms where indicated and return to:

Director (cn)
U.S. Coast Guard
National Pollution Funds Center
4200 Wilson Boulevard, Suite 1000
Arlington, VA 22203-1804

If we do not receive the signed original Acceptance/Release Form within 60 days of the date of this letter, the offers are void. If the settlements are accepted, your payment will be mailed within 30 days of receipt of the Release Form.

If you have any questions or would like to discuss the matter, you may write me at the above address or contact me by phone at 202-493-6863.

Sincerely,

GEORGE SILVA
Claims Manager
Natural Resource Damage Claims Division
U.S. Coast Guard

ENCL: Acceptance/Release Forms

Claim Accounting Summary

Table 1. Original Claim Submission

<i>Claimed Amount</i>	<i>Claim Component</i>
\$354,057.60	Assessment costs covering the period from Oct '95 to May '01
\$180,116.95	Costs of Emergency Restoration for which documentation is included
\$150,000.00	Estimated assessment costs for which documentation is forthcoming
\$30,000.00	Estimated costs covering 05/01/2001-03/31/2002
\$50,000.00	Estimated additional emergency restoration costs to be documented (withdrawn by claimant)
\$1,097,778.00	Cost of implementing restoration plan including overhead
\$1,861,952.55	Total natural resource damages claimed

Table 2. Restoration Claim Submission including adjustments

<i>Claimed Amount</i>	<i>Claim Component</i>
\$1,097,778.	Cost of implementing restoration plan including overhead
\$180,116.95	Emergency restoration costs
+\$8,796.54	Change from revised emergency restoration costs submitted 10/24/01
\$567,220.	Amendment to increase contingency plan costs submitted 04/01/03
\$1,853,911.49	Total claimed natural resource damage restoration costs
-\$59,033.	Denied inflation adjustment to restoration monitoring costs
-\$88,025.	Denied flat 10% project contingency
-\$253,936.	Denied proposed additional 3 years of monitoring
\$1,452,917.49	Total compensable natural resource damages restoration costs

U.S. Department
of Homeland
Security

**United States
Coast Guard**



Director
United States Coast Guard
National Pollution Funds Center

4200 Wilson Blvd.
Suite 1000
Arlington, VA 22203-1804
Staff Symbol: (CN)
Phone: 202-493-6863
E-mail: gsilva@ballston.uscg.mil

Claim Number: 144002-OI2	Claimant Name: DOI Fish & Wildlife Service ATTN: Ms Anne Badgley FWS Region 1 911 NE 11th Avenue -- Eastside Complex Portland, OR 97232-4181
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I, the undersigned, ACCEPT the settlement offer of \$1,452,917.49 as full satisfaction for all natural resource damage (NRD) restoration and emergency restoration claims associated with the below described incident.

This settlement represents full and final release and satisfaction of all claims under the Oil Pollution Act of 1990 (33 U.S.C. 2712(a)(2)), arising from the Rose Atoll 10/14/1993 oil pollution incident involving the *F/V Jin Shiang Fa*. This settlement is not an admission of liability by any party. I hereby assign, transfer, and subrogate to the United States through the Oil Spill Liability Trust Fund (Fund) all rights, claims, interest and rights of action, that I may have against any party, person, firm or corporation that may be liable for the loss. I authorize the United States to sue, compromise or settle in my name and the United States fully substituted for me and subrogated to all of my rights arising from the incident. I warrant that no legal action has been brought regarding this matter and no settlement has been or will be made by me or any person on my behalf with any other party for costs which are the subject of the claim against the Fund.

I, the undersigned, agree that, upon acceptance of any compensation from the Fund, I will cooperate fully with the United States in any claim and/or action by the United States against any person or party to recover the compensation. The cooperation shall include, but is not limited to, immediately reimbursing the Fund any compensation received from any other source for the same claim, providing any documentation, evidence, testimony, and other support, as may be necessary for the United States to recover from any other person or party.

I, the undersigned, certify that to the best of my knowledge and belief the information contained in this claim represents all material facts and is true. I understand that misrepresentation of facts is subject to prosecution under federal law (including, but not limited to 18 U.S.C. 287 and 1001).

_____	_____
Title of Person Signing	Date of Signature
_____	_____
Typed or Printed Name of Claimant or Name of Authorized Representative	Signature

_____	_____
Title of Witness	Date of Signature
_____	_____
Typed or Printed Name of Witness	Signature