

24 AUG 2011

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**COMPLETION REPORT
ON THE PROCUREMENT
AND
INSTALLATION
OF THE AITUTAKI
EARLY WARNING SYSTEM
AS PART OF THE
AITUTAKI TROPICAL CYCLONE "PAT"
RECOVERY PROJECT**

Executive Summary

Tropical Cyclone PAT, Category 3, hit the Southern Cook Islands in the early hours of 10 February 2010 (Cook Islands time), and Aitutaki island was seriously hit, with major infrastructural damage, although the airport, wharf and hospital only sustained minimal damage. At its height Tropical Cyclone Pat was classified as a category 3 cyclone bringing destructive wind gusts of over 100 knots.

On 10 February (Cook Islands time), the Prime Minister declared a State of Disaster for Aitutaki Island. An Emergency Operation Centre (EOC) on the island was immediately activated and an assessment team composed of government and Red Cross staff was dispatched to the island on the same day.

The total population of the island is 1,671(580 households, 711 houses) and they reside in 8 villages on the main island. The whole population of the island has been affected in one way or another. More than 85% of the houses were severely damaged within the 75-100% damage category. A significant number of households were displaced since their houses were totally damaged.

A major component of the rebuilding of Aitutaki was to ensure that an early warning system is place for the detection of natural hazards and a service to the people of Aitutaki in terms of information. At the height of TC PAT, the Cook Islands Telecom mast was damaged and all communications were lost. Unfortunately, the meteorological sensors for detecting extreme weather were also contained in this mast and they were also affected.

This report contain the handling of the procurement of the Early Warning System for Aitutaki as part of the Tropical Cyclone PAT Recovery Project for Aitutaki.

Introduction

TC PAT started off as Tropical Depression 9F that passed between Pukapuka and Manihiki on the 7th of February 2010. The system deepened in the next 2 days. On the 7th of February 2010 at 1.38pm, the first Special Bulletin was issued on TD 9F for the Northern Cook Islands. In the second SWB for the Northern Cook Islands at 4.40pm on the 7th, TD9F was re-named TC PAT. Six SWB were issued for the Northern Cook Islands, with the last being issued on the 8th February at 6.38am. On the 8th of February, the first Special Weather Bulletin was issued on PAT for the Southern Cook Islands at 10.55pm. Nineteen SWB were issued on TC PAT for the Southern Cook Islands during its life-span of about 3 days.

At the height of Tropical Cyclone PAT, the automated weather station on Aitutaki reported a maximum sustained winds of 45 knots with gusts upto 60 knots. This report was nothing compared to the observations made by the people of Aitutaki at the height of PAT in the early hours of Wednesday 10 February 2010 with estimated winds as high as 100 knots and gusting 150 knots.

A visit to the site of the meteorological site confirms that the mast that the winds sensors have been installed on, has been damaged and pushed down by the hurricane force winds of PAT. The rain-gauge has been jolted to a stage that the bolts and rivets holding the gauge to the concrete base has been loosened to a stage where it has been mis-aligned and not sitting evenly on the base.. The cabling for the wind sensors has been cut as part of the clearing process by the people of Aitutaki and has been exposed to the natural elements for the previous 18 days.



Damaged Telecom mast in Aitutaki after it was damaged by TC PAT in the early hours of the morning of February 10th, 2010

Project Documents

One project document was presented to the Recovery Team based on a summation from a company in the United States. Their proposal was for USD26,700 exclusive of communication installation costs. Upon the assistance rendered by the Government of New Zealand, the Meteorological Service of New

Zealand opted a package for an early warning system, considering that they have originally provided the damaged sensors for Aitutaki. After some misconceptions of the proposal for the Early Warning System for Aitutaki under the Recovery Team, the clarification provided by the Cook Islands Meteorological Service resulted in an agreement by the Team to approve the proposal for the provision of the Early Warning System for a cost of NZD65,000.

A contract was drawn between Meteorological Service New Zealand Limited and Air Management Division of MFEM that the amount of NZD60,000 will be released to Meteorological Service New Zealand Limited while a retention of NZD5,000 will be kept until the project is completed and all paperwork is accomplished.

Objective(s)

The objective is to replace the damaged automatic weather system with a more robust early warning system via the iSTAR-mSTAR AWS at Aitutaki.

Achievements

The objective has been achieved as of 15 July 2011.

Issues/Challenges

Although the project was time-lined for 3 months after approval of funds, the sourcing of material and the tailor-making of parts in New Zealand that will suit the tropical climate of Aitutaki resulted in delaying the installation process by an extra 2 months. These delays could not be by-passed as the right tools and equipment need to be obtained before the bulk purchase were made and shipped to Aitutaki via Rarotonga. As a consequence of this careful planning, the installation took place in 5 days instead of the original planned period of 3 weeks.

Procurement

The approval of the project prompted Met Service NZ Ltd to procure and tailor-make the AWS according to the local infrastructure. This took place in Paraparaumu for 5 months.

Installation

The AWS was installed by a technical personnel from Met Service Ltd, with the assistance by CIMS. Although the Met Service Ltd personnel was in Aitutaki for 6 days, it was necessary for the local counterpart to be with him for only a couple of days. Both technicians departed for Aitutaki on Wednesday 13th July and the local counterpart returned to Rarotonga on Friday 15th July.

The only costs made on local contributions were a return airfare to Aitutaki, a bike hire for 2 days and accommodation and allowances for 2 days and freight. The total costs for the local contribution was for NZD1334.00.

It should be borne in mind that the amount used for the local contribution is the retention amount as agreed in the contract between AMD and Met Service Ltd. Whatever savings then is left, ought to go back to Met Service NZ Ltd.

Conclusion

The Cook islands Meteorological Service is happy to advise that the Aitutaki Automatic Weather Station is operating exceptionally well since July 15th 2011. Hourly reports are received as well as synoptic reports to cater for forecasting and to assist in the early warning system to detect any deteriorating weather that may affect Aitutaki and the Cook Islands.

Financial Acquittal Report

Name of the Recipient Organisation Ministry of Police, Meteorological Services Division
Address P O Box 127, Avarua, Rarotonga, Cook Islands

Address

Date of Acquittal Report 24th August 2011

Name of Project: Early Warning System for the Cook islands
Name of Country / Programme: Cook Islands / Tropical Cyclone PAT Recovery
Koru Record ID#:

Period covered by the acquittal

From: 1 January 2011

To: 24 August 2011

1. Financial Statement

Balance of funds carried forward \$0
MFAT funding for the period \$65,000
Other income received \$0
Total income \$65,000

Less total expenditure \$61,237.00

Balance of funds on hand (as at date of Report) \$3,763.00 (equivalent to NZ\$3,763 (where applicable))

2. Reconciliation of expenditure against agreed Budget

#	Original Budget Line Item	Budget Amount	Actual Expenditure	Amount of over / under expenditure	± % variation to budget
	Total Cost	\$65,000.00	\$61,237.00	\$3,763.00	
	(Equipments - \$60,025, Project Mgt costs - \$1,212)				
	totals	\$65,000	\$61,237	\$3,763	

3. Statement

I declare that the above information is true and correct and confirm:
EMCI funds were received and used only for the agreed purpose(s), and
All conditions attached to EMCI's funding have been met, and
EMCI funds have been fully utilised for the intended purpose, OR

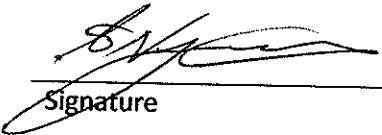
4. There are unspent funds and I understand that MFEM will deduct this amount from the next tranche payment OR a cheque is attached returning these funds to MFEM.

Arona Ngari

Full Name (in block capitals)

Director

Title / Position



Signature

26 August 2011

Date