OMAN GREEN AWARDS 2011

NOMINATION FORM

Instructions for completing the nomination form:

1. Please use a separate Nomination Form for each award category.
2. You may attach extra paper as necessary
3. In the event you attach photographs, Statistical Tables and Reports to support your nomination they should be clearly labeled and marked
4. Please note that it is mandatory to provide two independent referees for the Nomination to be considered.

Organization Details:

Organization Name	Sultan Qaboos University (SQU)
CR No.	_____
Organization Type (Business/NGO/Gov)	Government
Website	www.squ.edu.om
Location /Address	P.O. Box: 50, PC 123 Al-khud, Sultanate of Oman.

Award Category Green Landscape Award

Project Details:

Project Title	Central Control System for Irrigation Water Management at Sultan Qaboos University.
Location of Project	Sultan Qaboos University Campus, Al-Khud, Sultanate of Oman.
One Line Description of Project	Effective implementation of Water Management technology in maintenance of landscape area by utilizing available water & energy resources.

Effectiveness

What were your goals?	To maintain the large landscape area in Sultan Qaboos University (SQU) campus in the most economical way with help of correct water management technologies, which can operate irrigation system based on the actual plant water requirement by the help of various environmental factors; such as Temperature, Relative Humidity, Solar Radiation, Wind Velocity, Rainfall & Soil structure, which can help to apply the correct amount of water at right time and duration to the landscape areas and the ultimate aim is to achieve water saving,

energy saving with the implementation of correct technology to maintain lush landscape.

How have you measured your success?

We have a reasonable historical data's for the last few years on water consumption and other agricultural inputs utilized for the maintenance of landscape area at Sultan Qaboos University, which has helped us a lot to evaluate and compare the savings and benefits of the implementation of this project and actual pay back period to recover the investment made on this project. Based on our analysis we found that, in the first 5 months (August-December 2009) from the actual date of operation, water consumption was 25% less than the same period of time in 2008. Moreover, the report of 2010 shows a reduction of 20% in water consumption than 2008 during the period from January to December (herewith attached the relative analysis reports).

Innovation & Creativity

How were innovative methods, strategies or ideas applied?

The technical Team under the guidance of the director and deputy director for maintenance of Technical Affairs Department (TAD), worked together as a team in association and consultancy of two manufacturers of the best water management technical expertise; Rain Bird International (USA) & their local distributor M/s Al Ansari Trading Enterprise LLC and Hunter Industries Incorporated (USA) & their local distributor M/s Muna Noor Manufacturing & Trading LLC, to design the effective water management technology which can serve better and suitable for our environment to achieve the goals.

Methods and Strategies applied for the effective implementation of the project:

- Survey of entire landscape area and existing Irrigation System components.
- Survey of existing pipeline route for both potable & TSE water.
- Survey of existing main isolation valves used for landscape purpose.
- Survey of existing communication cables route.
- Survey of existing ducts to route the communication cables wherever required.
- Divide and marking of all the landscape areas in to two types i.e. Irrigation with potable water & Irrigation with TSE water.
- Identification of the available communication options; such as telephone extension, GSM Signal at various locations, where the actual plan to put the field satellite controllers, master valves, flow sensors, wind sensors.

- Identify the suitable location to install flow sensor assembly, wind sensor to get effective data's of water consumption in different area.
- Visits various sites, where the similar type of Central Control System effectively used and received feedback from the end users.
- Preparation of budgetary estimation with all the features and benefits in order to get a budgetary approval from the Key authority of SQU.
- Schematic sketch prepared for installation and route to be followed for effective implantation of the Central Control System.
- Based on the above schematic sketch, necessary steps were taken to create new ducts and modification of existing ducts wherever required for easy installation of communication and power supply cables required connecting the component without any time delay.
- Preparation of tender documents by taken into consideration of all aspects such as budget, manpower, implementation period, maintenance, system warranty, experience of the tenderers in such works, technical supports and other miscellaneous activities related to contract requirement.
- Identified the correct contractor and the system by analyzing the submitted offers based on the lowest quotation, the contractor experience, system warranty, technical support, which will be correctly suitable & to meet the estimated budget.
- Effective implementation methods were used and applied in co-ordination with the awarded contractor and the local distributor M/s Al Ansari Trading Enterprise LLC of selected Central Control System i.e. MAXICOM, Rain Bird (USA) and the system was successfully commissioned on October 2008. There was an operational trail period from October 2008 to July 2009, no data collection, to solve any problem during project execution and to make sure that the system is working effectively. The collection of data was started from August 2009.
- Since from the beginning the system was effectively monitored and all the snags related to the system commissioning were attended and cleared on time and good noticeable results are being received within the actual observation period of more than 18 months from the date of actual operation.

*** **The system is comprising of Personal computer (2 no) installed with** MAXICOM **software; one at Technical Affairs Department and other at maintenance contractor's office, weather station (WSPRO2) to get all climatologically affecting factors of Evapo-Transpiration, cluster control units (5 no), satellite controllers (43 no), flow sensors (60 no), master valves (53 no) & wind sensors (5 no).**

Impact

How has the project/initiative/work motivated others to contribute to a greener Oman?

The effective implementation of the water saving technology has impressed our colleagues and the local distributor, it has become a role model for various Government and Private sector organizations, such as Royal Office and Blue City project (phase 1), those who are interested to know and implement new development in natural resource saving technologies.

The success of this project have given a good impact on most of the key people of various organizations specifically to modify their existing method of Irrigation into new concept of applying through the effective central control system which will bring them ultimate benefit of water saving and effective utilization of available natural resources.

Originality and Leadership

How has the nominee demonstrated vision,
foresight and persistence?

This was happened due to the wise decision and guidance of the director, deputy director for maintenance and Head of Landscaping & Irrigation section of Technical Affairs department and the support from different departments, such as Administration Affairs Department, Center for Information Systems.

Continuity & Sustainability

How sustainable is the initiative carried out?

As explained above, this new technology has ensured the sustainability and viability of our landscape area and we believe that resources efficient landscapes are the way forward for truly effective continuity mainly on natural resources savings.

Explain how it will be effective in the long term?

1. Conservation of water (15-25%) on annual basis.
2. Reduce ground water table depletion around SQU.
3. Prevents water quality deterioration, as it does not allow sea water seepages over the period of time.
4. Reduce consumption of water, directly results in saving of water bills.
5. This also results in good saving of electricity bills.
6. Increases the life of irrigation equipment like Pumps, Controllers, Rotors, etc.
7. Reduces the cost of operation & maintenance considerably.
8. Features like direct link to weather station based on the climatological factors reduce wastage of water.
9. The above savings enable SQU to utilize the resources for more productive use.
10. Payback period for SQU for this project could be 5 years or less.