Promoting development friendly policies is also essential to achieve long term security and prosperity

In an exclusive interview with The Baily Star, Peter Barcroft, Director of the Peace and Democracy Programme of Parliamentarians for Global Action (PGA), talks to Amitava Kar about better regulating small arms and light weapon transfers worldwide. He was in Dhaka recently to organise a Regional Asia Parliamentary Workshop on the Regulation of Small Arms and Light Weapons and Mitigation of Armed Violence together with Dhaka based organisation, ChangeMaker.

Could you please give us a background of this workshop?

The goal of the workshop is to improve the regulation of Small Arms and Light Weapons (SALW) and contribute towards the mitigation of armed violence in South Asia and Southeast Asia. We are doing this against the backdrop of a situation (not unique to this region) where inadequate control and regulation of SALW is continuing to cause enormous human suffering, law and order and security problems. These legislators have come together because they share this concern. They wanted to identify ways in which they can have an impact and improve the situation. They are trying to encourage their respective governments to sign up for treaties that deal with these problems. Legislators from seven countries in the region are participating - Bangladesh, Bhutan, Cambodia, Maldives, Malaysia, Nepal and Pakistan. They also recognise that inadequate regulation of SALW has a serious, adverse impact on sustainable development in their respective countries and the Plan of Action that they adopted at the conclusion of this workshop specifically takes this into account.

We always hear about regulating exports of small arms. Is enough emphasis given on controlling small arms ammunition? There has existed for some time a recognition



Peter Barcroft

that we cannot find a truly effective solution to this problem unless we address the issue of access to and regulation of ammunition at the same time.

In the negotiation of the Arms Trade Treaty (ATT) which is the most recent initiative to deal with this problem, as well as certain

other conventional weapons, a lot of discussions took place on whether or not to include ammunition. There were some countries and regions that strongly supported it, notably in Africa, but also among many countries in Latin America, Caribbean and elsewhere. Others were less receptive to this

reality, notably large exporting countries. In the end, a compromise was found. So the text of the Arms Trade Treaty contains specific language that also imposes obligations vis-à-vis ammunition transfers.

Given the rise of improvised weapons like IEDs in some parts of the world, do you think that it is important to redefine SALW? While there is currently no universally recognised definition of SALW, it is extensive and when countries sign up for these international treaties that better regulate trade in SALW, they can also, at their discretion, introduce their own legislation defining SALW at the national level. IEDs are, of course, a source of massive human suffering and used increasingly by terrorists and insurgents, but it is important at the same time to identify the best way to regulate them and this may not always necessarily be within the scope of an existing arms treaty whose main focus is on cross border transfers of arms/weapons.

Could you give us an idea about the roles that governments around the world are playing to combat this problem? How many countries have ratified the ATT? Seventy two countries have ratified the treaty and a hundred and thirty countries have signed it. This is actually quite a remarkable feat because the treaty was only adopted in April 2013. It entered into force in December 2014. Bangladesh has signed the treaty, but has not yet ratified it. We hope the Government of Bangladesh will take this step very soon.

The timing of this workshop is also quite propitious as it coincides with the First Conference of the State Parties of the ATT in Mexico. They are meeting for the first time in a formal setting to make some extremely important decisions as to how to implement and move forward with the ATT in the future.

Do you think laws are enough? How do we look at this issue in a more comprehensive way?

Laws in and of themselves are not enough. They have to be enforced and implemented. Resources need to be made available to this end. The ATT itself envisions the setting up of a trust fund to help countries that will require assistance and cooperation.

The ATT, however, in and of itself, will not solve this global problem alone. There are broader issues that need to be addressed simultaneously. Poverty and unemployment which may feed into religious extremism are all parts of this overall equation. Promoting development friendly policies is also essential to achieve long term security and prosperity. A holistic approach at the national, regional and international level is what is required.

COOLING TOWERS

A challenge for Rooppur nuclear power plant

K.M. MAHBUBUR RAHMAN

THE proposed Rooppur nuclear power plant (RNPP) stands on the river Padma. Insufficient water in Padma will require the power plant to adopt re-circulatory condenser water cooling system to convert the used steam of turbines into water. The main devices on the system are the cooling towers where the condenser water gets cooled by evaporation of water in contact with moving air. Air absorbs heat from water and rejects to atmosphere. As cooling tower performance is greatly influenced by ambient condition, RNPP will face a great challenge to select the right type and size of towers which can handle the huge quantity of water under high ambient temperature.

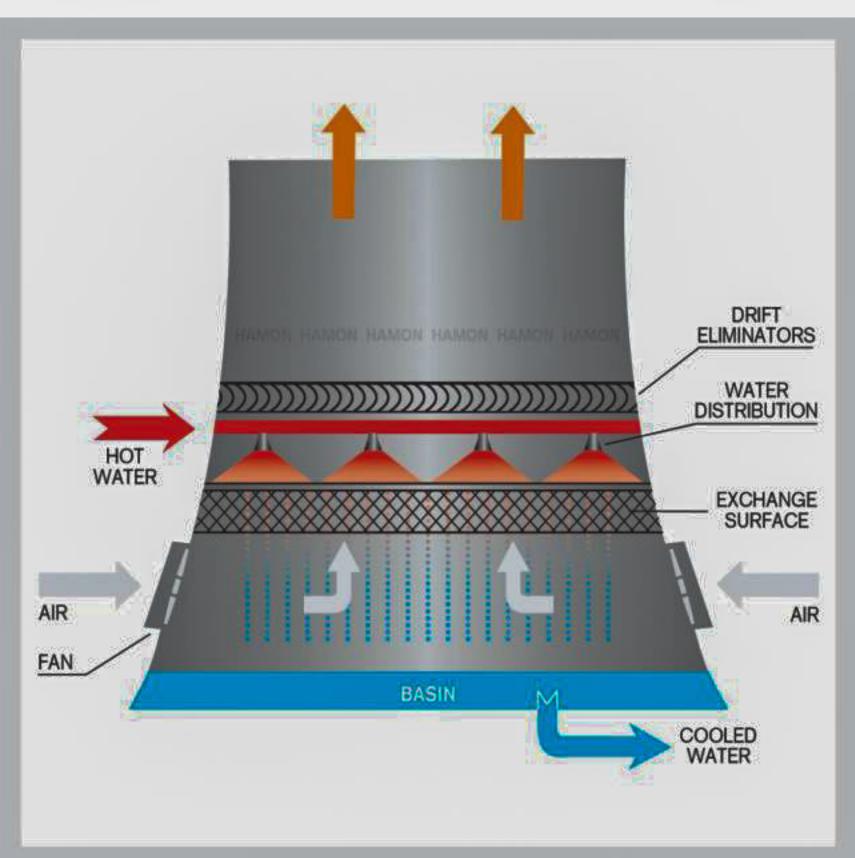
Air wet bulb temperature is the most important factor for cooling tower, because it is the minimum temperature that water can achieve through evaporation. In fact water can only be cooled near to wet bulb temperature at any weather condition. This is the reason why cooling towers are designed based

on wet bulb temperature. The peak summer condition at Rajshahi (a nearby city) is 39.5°C db and 29.2°C wb (source BNBC 2006) will be applicable for Rooppur. 29.2°C≈ 85°F is a very high wet bulb temperature for a cooling tower. The higher the wet bulb temperature, the larger will be the size of tower. Therefore, cooling towers

in Bangladesh will be much bigger in size than those in countries of America and Europe where the wet bulb temperature is in the range of 75°F to 78°F. Suitable towers for RNPP Parabolic (or hyperboloid) cooling tower, a tall and round structure with slight convergence in the middle, is so common a view that it has become an icon of nuclear power plants. Fan assisted parabolic towers may be a suitable choice for RNPP (refer to images). Because, the parabolic towers will handle huge quantity of water and the forced draft fans will supply the

required air flow. An added advantage is that the recirculation of hot air will not take place as it will be discharged at high level. A typical parabolic tower of 180m height can handle 170,000 cum/hr of condenser water. The quantity of condenser water flow for a tower of RNPP will be around 97,200 cum/hr. and is well within limit of capacity of available tower in the market. For 2000 MW plant, 4 nos. cooling towers are required. It will be wise to provide one more cooling tower as standby for convenience of maintenance. The towers may be sized for 10 percent more water flow for a factor of safety. Cooling water treatment

The turbid river water will need pre treatment before it is filled in the cooling system. Continuous evaporation in towers will leave behind soluble salts in the cooling water. These salts deposit as



scales in condenser tubes and resist heat transfer. As a remedy, anti-scaling and anti-corrosion chemicals are to be added to maintain the chemistry of water within allowable limit. To reduce the concentration of dissolved salts, blow down is to be carried out on

regular basis and refilled by fresh water. Make up water will be automatically fed in by a float valve which will open and close when the water in tower bed reaches the set levels.

Also biocides are to be applied regularly to prevent the growth of algae

and bacteria in cooling towers because microbiological fouling also hampers the heat transfer.

Impact on the environment It is a fact that Legionella, a very harmful bacteria thrives in cooling towers. Tiny water droplets carrying this bacteria are airborne to the nearby localities and spread pneumonia and acute respiratory diseases. It is a known negative impact of cooling towers on the environment and public health when due attention is not given for tower maintenance during plant operation. It can be pre-

vented by application of biocide chemicals and regular cleaning of towers. Judicious selection of the type and size of cooling towers cannot be overemphasised. The output of the power plant is dependent on cooling water temperature. One degree hotter cooling water will reduce turbine output by about one percent. Concrete cooling towers are permanent in nature and will last throughout the plant life. Ceramic tile fills are more durable and is preferable to PVC fills. As the towers will be built and erected at site, its final performance is to be tested during peak summer season. The test is to be conducted and certified by an internationally reputed third party agent. However, it is never wise to compromise the quality and size of towers on the

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It is never wise to compromise the quality and size of towers on the ground of cost saving.

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CROSSWORD BY THOMAS JOSEPH

ACROSS

- 1 Sun-dried brick
- 6 Cook's protector 11 Stuck in the mud
- 12 Florida city
- 13 Notions 14 Neighbor of Tibet
- 15 Head, to Henri 17 Three, in Torino
- 18 Full of mischief
- 22 Genesis setting
- 23 Beef buys 27 Plane parts
- - 29 Bulldogs fan 30 Arrangements
 - 32 Mosaic piece 33 Go all out
 - 35 Uncooked 38 New driver,
 - usually 39 Be patient for
 - 46 Less diluted
- - 41 Quartz variety
 - 45 Broad comedy

47 Used a keyboard

48 Harpoon

4 Clobbering 5 Bygone auto

DOWN

1 Paris pal

2 Performed

3 Mine rock

- 6 Legal forgiveness 7 Diner dessert
- 8 Enthralled 9 Poet Khayyám
- 10 Cairo's river 16 "My country -- of
- thee"
- 18 Meadow coatings 19 TV's Falco

20 Let off steam

- 21 Getting lively 24 Stepped down 25 Metric amount,
- for short
- 26 Glimpsed
- 28 Glimpsed
- 31 Take to court 34 Harvests
- 35 Flat floater
- 36 Not at home 37 Deform
- 40 Glacier makeup 42 Common verb
- 43 Earl Grey, for one 44 Miscalculate

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