

DRAGO CANNON DEMONSTRATION

Locations: Bruce Power, Tiverton, Ontario

Date: 2018 October 22

Estimated time: 3.5 hours

Time: Between 13:00 pm and 16:30 pm

REFERENCES

1. Canadian Patent Pending Application No. 2,810,080: Configurable fire-fighting apparatus and method therefore.
2. Drago ISI web site at: www.drago-isi.com

PREFACE

The above cannon apparatus as shown in figure 1, generally relates to fire-fighting equipment. More specifically, but not exclusively, the present cannon apparatus is concerned with an apparatus for generating water droplets or foam transported in a strong airflow or foam. The apparatus may be configured according to different uses and situations by varying droplet size and/or the flow dispersion pattern.

Drago-ISI will use the facilities of Bruce Power Training Center to perform real 3D class B fire comparison. Demonstration will be performed in Tiverton, Ontario located:

**Bruce Power L.P.
Bldg. B10, P.O. Box 1540
177 Tie Road
Municipality of Kincardine
R.R. #2
Tiverton, Ontario
N0G 2T0**

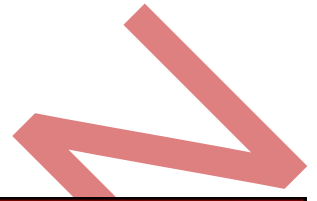





Fig. 1 Drago in action

GOAL

Using the Drago cannon, perform 3D class B extinguishing time comparison using (2) different extinguishing agent as the vaporized water and Foam Class B 3%.

FIRE NOZZLE (COMPARAISON)



<u>CANNON/ FIRE NOZZLE</u>			
	TRADITIONNAL FIRE NOZZLE	LADDER WITH A HIGH DELUGE FIRE NOZZLE	DRAGO CANNON
FUNCTION	<u>FIRE NOZZLE FOR DIRECT ATTACK WHEN FIRE IS INSIDE BUILDING</u>	<u>LADDER FOR RESCUE EQUIPPED WITH A HIGH DELUGE NOZZLE</u>	<u>CANNON PROJECTING VAPORIZED WATER/FOAM/FORCED AIR EXTINGUISHING MAJOR FIRE</u>
LENGHT OF PROJECTION (FEET)	AROUND 40- 50 FEET CONIC PATTERN FOR ATTACK. 100 FEET IN DIRECT STREAM	AROUND 60- 70 FEET CONIC PATTERN FOR ATTACK. 150 FEET IN DIRECT STREAM	150-300 FEET
WATER FLOW RATE (GALLON PER MINUTE)	DEPEND ON DIAMETER LANCE 2 1/2 INCHES = 350-400 GPM	300-1000 GPM	100-625 GPM
CAPACITY OF EXTINGUISHING AND % WATER REACHING 100 FEET	5% VERY LOW	AROUND 40%, MEDIUM (AERIAL FIRE NOZZLE OVER FIRE)	ESTIMED 90% ,VERY HIGH (PROJECTING VERY EFFICIENT VAPORIZED WATER/FOAM WITH PERFECT RATIO AIR/WATER AND WITH HIGH VELOCITY)
HEAT ABSORPTION (100 FEET) / DIAMETER 30 FEET	AROUND 2 MEGAWATT	AROUND 20 MEGAWATT	AROUND 42 MEGAWATT
Drago Cannon:	Performance lowered by up to 20% with additive such as Gel or Foam.		
	Climatic factors are not considered		

DEMONSTRATION EQUIPMENT, SPECS

1. Drago cannon equipped with the Spider water system consisting of (14) nozzles (see figure 2).
2. Storz type connection of a diameter of 4 inch x 2.
3. Characteristic water flow/pressure from 480 GPM (150 PSI) to 630 GPM (250 PSI).



Fig.2 Spider nozzles system (Foam and water)

OBJECTIVES

A. BASELINE DÉMONSTRATION WITH A STANDARD FIRE NOZZLE

Extinguishing time with a **hand** fire nozzle 2 ½ inch projecting vaporized water and foam.

B. WATER

Extinguishing time with the Drago projecting vaporized water.

C. FOAM CLASS B

Extinguishing time with the Drago projecting vaporized water and class B foam.

DEMONSTRATION PLAN

1. Demonstration to be performed with the Drago Cannon on the trailer unit leveled and projecting on the 3D class B test rig. See figure 3, 4 and 5.
2. Same set-up for all demonstration.
3. Water spray shooting axis must be horizontal to the floor and at 75 feet (Drago only).

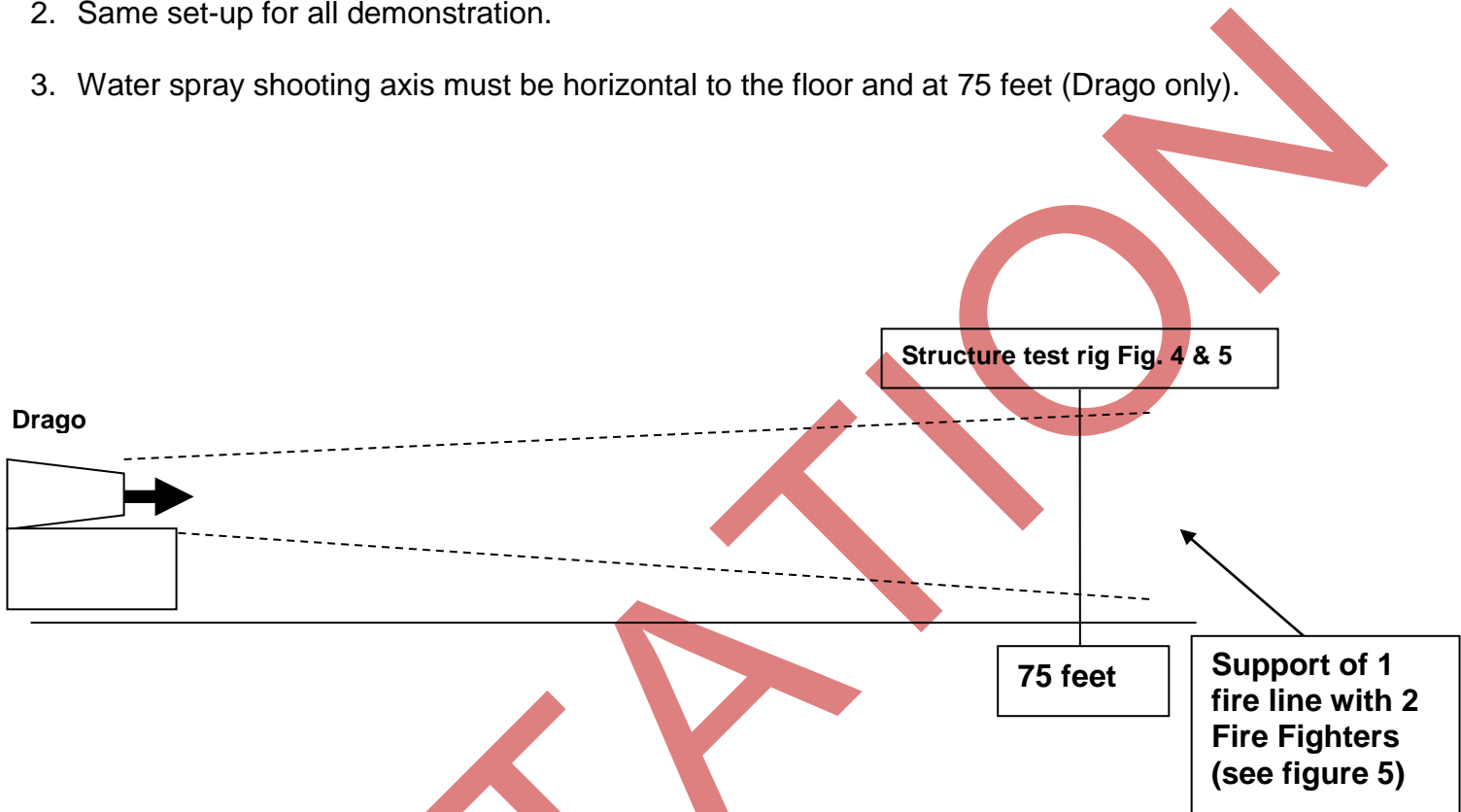


Fig. 3 Test set-up

SCHEDULE (13h00 to 16h30 pm)

13H00 to 13H45: Presentation of the Drago Cannon

13h45 to 15h45: Demonstration of the Drago Cannon

15h45 to 16h30: Question and Discussion

Demonstration Module



Fig. 4 - 3D B class test rig



Fig. 5 - (2) Fire Fighters with (1) fire line in support