

INIS 50 7-129

INIS-mf--9605

PRESIDENTIAL ADDRESS

TO THE

23RD ANNUAL INTERNATIONAL CONFERENCE

OF THE

CANADIAN NUCLEAR ASSOCIATION

BY

DR. NORMAN ASPIN

QUEEN ELIZABETH HOTEL, MONTREAL, QUEBEC

JUNE 13, 1982

"I HAVE SOME GOOD NEWS AND SOME BAD NEWS". FOLLOWING THAT PHRASE YOU NORMALLY EXPECT TO HEAR A FUNNY STORY. MY PURPOSE THIS MORNING IS NOT TO BE HUMOUROUS BECAUSE I THINK "I HAVE SOME GOOD NEWS AND SOME BAD NEWS" ACCURATELY DESCRIBES THE STATUS OF OUR NUCLEAR INDUSTRY. I INTEND TO DWELL ON THE GOOD NEWS, BECAUSE WE ALL KNOW TOO WELL THE BAD NEWS, WHICH IS THE STATE OF THE WORLD ECONOMY OVER THE LAST COUPLE OF YEARS AND WHICH HAS AFFECTED ALL OUR ORGANIZATIONS, ALTHOUGH SOME MORE THAN OTHERS. WE HAVE ALL BEEN SO PREOCCUPIED WITH DEALING WITH OUR PROBLEMS THAT WE HAVE TENDED TO OVERLOOK THE SOLID ACHIEVEMENTS OF CANADA'S NUCLEAR INDUSTRY DURING THE PAST YEAR. IT IS MY INTENTION THIS MORNING TO REMIND YOU OF SOME OF THESE ACHIEVEMENTS AND TO CONSIDER WHAT THE FUTURE HOLDS, BOTH FOR THE NUCLEAR INDUSTRY AND FOR THE CANADIAN NUCLEAR ASSOCIATION.

FIRST THE GOOD NEWS. THE NUCLEAR ELECTRIC POWER INDUSTRY HAS CONTINUED TO GROW DURING THIS ECONOMIC SLUMP. AT THE END OF 1982 THERE WERE 294 POWER REACTORS OPERATING IN THE WORLD PRODUCING A TOTAL OF 173,208 MW OF ELECTRIC POWER. DESPITE ALL THE CANCELLATIONS AND DEFERMENTS THERE ARE STILL 215 REACTORS UNDER CONSTRUCTION, WHICH, WHEN THEY ARE COMPLETED WILL GENERATE AN ADDITIONAL 197,860 MW(E). THUS WITHIN THE NEXT DECADE THE NUMBER OF OPERATING REACTORS WILL INCREASE TO 509 AND THE POWER OUTPUT WILL MORE THAN DOUBLE TO 371,068 MW(E).

CANADA'S NUCLEAR POWER PROGRAM IS REPRESENTATIVE OF THE WORLD SITUATION, WE PRESENTLY HAVE 13 REACTORS PRODUCING 6,686 MW(E) WITH 11 REACTORS STILL UNDER CONSTRUCTION WHICH WILL PRODUCE AN ADDITIONAL 6,702 MW(E). IN THE

EARLY 1990s CANADA WILL HAVE 24 REACTORS PRODUCING 13,458 MW OF ELECTRIC POWER. THIS IS A SOLID GROWTH ACHIEVEMENT FOR ANY INDUSTRY DESPITE THE FACT THAT IT FALLS FAR SHORT OF THE GROWTH WHICH WE PROJECTED A FEW YEARS AGO.

THE BAD NEWS IS WELL KNOWN TO ALL OF US. WORLD-WIDE THERE ARE VERY FEW NUCLEAR ORDERS AND IN CANADA THERE ARE PRESENTLY NO NEW REACTOR PROJECTS ON THE ORDER BOOKS. LET ME REMIND YOU ONCE AGAIN OF THE MAJOR FACTOR WHICH HAS CONTRIBUTED TO THIS LACK OF ORDERS. DURING THE PAST TURBULENT DECADE OF RISING ENERGY COSTS AND DECLINING ECONOMIC ACTIVITY THERE HAS BEEN A WORLD WIDE DECLINE IN THE GROWTH OF ELECTRICAL DEMAND. QUITE SIMPLY, UTILITIES DON'T BUILD NEW GENERATING CAPACITY WHEN THEY DON'T SEE THE DEMAND FOR THEIR PRODUCT INCREASING. HOPEFULLY, A RETURN TO INCREASING ELECTRICAL REQUIREMENTS WILL FOLLOW WORLD ECONOMIES AS THEY MOVE OUT OF THE ECONOMIC DEPRESSION

WELL, LETS RETURN TO THE GOOD NEWS. IF WE DOUBLE OUR NUCLEAR GENERATING CAPACITY, WE WILL HAVE TO DOUBLE OUR SUPPLY OF NUCLEAR FUEL, WHICH SUGGESTS A BRIGHTER FUTURE FOR THE URANIUM PRODUCERS AND NUCLEAR FUEL FABRICATORS. IN 1982 THE OECD COUNTRIES PRODUCED A TOTAL 33,680 TONNES OF NATURAL URANIUM TO MEET REQUIREMENTS OF 31,700 TONNES U. THIS OVER SUPPLY OF URANIUM HAS PARTIALLY CONTRIBUTED TO THE DECLINING MARKET PRICES OF THE LAST THREE YEARS. WHILE THE OVERSUPPLY SITUATION IS NOT EXPECTED TO DISAPPEAR RAPIDLY, BY 1990 IT IS ANTICIPATED THAT THE SITUATION WILL HAVE REVERSED AS THE PRODUCTION CAPABILITIES OF THE OECD COUNTRIES WILL BE 47,247 TONNES U WITH REQUIREMENTS OF 52,200 TONNES.

TO MEET THIS GROWING WORLD MARKET CANADA'S URANIUM INDUSTRY IS CONTINUING ITS STEADY EXPANSION. IN ELLIOT LAKE OLD MINES ARE BEING RE-OPENED AND REDEVELOPPED, WITH THE MILLS OF PRESENTLY OPERATING MINES EXPANDING TO PROCESS THE INCREASED TONNAGES OF ORE. IN SASKATCHEWAN THE LARGE KEY LAKE PROJECT WILL COME INTO PRODUCTION NEXT MONTH. WITH THE COLLINS BAY ORE BODIES AND THE SECOND PHASE OF CLUFF LAKE BEING CONSIDERED FOR EARLY DEVELOPMENT. MIDWEST LAKE ON THE OTHER HAND HAS BEEN DEFERRED FOR LATER DEVELOPMENT. THE PAST FEW YEARS HAVE SEEN A GREAT DEAL OF EXPLORATION FOR URANIUM IN THE ATHABASCA BASIN OF NORTHERN SASKATCHEWAN AND OTHER POSSIBLE PRODUCTION CENTERS INCLUDE EAGLE POINT, PETER RIVER, DAWN LAKE AND McCLEAN LAKE. THIS YEAR, DEVELOPMENT DRILLING HAS INDICATED GREAT POTENTIAL FOR FOR THE WATERBURY LAKE AREA. IN SUMMARY, THE URANIUM PRODUCTION FROM THESE DEVELOPMENTS WILL MORE THAN OFFSET THE DECLINE IN PRODUCTION WHICH RESULTED FROM THE RECENT CLOSING OF THE BEAVERLODGE AND MADAWASCA MINES. FOR MANY YEARS NOW CANADA HAS BEEN SECOND IN WORLD URANIUM PRODUCTION BEHIND THE UNITED STATES. OUR PRODUCTION OF URANIUM HAS SHOWN A STEADY GROWTH AND IN 1982 WE PRODUCED OVER 8,000 TONNES U. RECENTLY URANIUM PRODUCTION IN THE UNITED STATES HAS SHOWN A DRAMATIC DECLINE. FROM A HIGH POINT OF OVER 16,000 TONNES IN 1980, PRODUCTION DROPPED TO 10,000 TONNES IN 1982 AND THIS YEAR IS EXPECTED TO DROP TO APPROXIMATELY 7,000 TONNES. THIS HAS RESULTED FROM THE CLOSING OF MANY HIGH COST MINES FOLLOWING A PERIOD OF DECLINING URANIUM PRICES. THE OUTCOME OF ALL THIS HOWEVER, IS THAT CANADA WILL LEAD THE UNITED STATES IN URANIUM PRODUCTION THIS YEAR.

IN ORDER TO KEEP UP WITH THIS GROWTH IN URANIUM PRODUCTION, CANADA IS EXPANDING ITS CONVERSION AND REFINING CAPACITY. LATER THIS SUMMER, THE

NEW  $UO_3$  PLANT WILL OPEN AT BLIND RIVER WITH A CAPACITY OF 18,000 TONNES U PER YEAR. SOON AFTERWARDS, THE NEW URANIUM HEXAFLUORIDE PLANT WILL OPEN AT PORT HOPE WITH AN ANNUAL CAPACITY OF 14,500 TONNES U,

LET US MOVE ON FROM THE FRONT END OF THE NUCLEAR CYCLE AND CONSIDER FOR FEW MOMENTS THE GOOD NEWS IN THE REACTOR INDUSTRY. AS YOU KNOW, THERE IS A TYPE OF "HIT-PARADE" FOR NUCLEAR REACTOR PERFORMANCE AND EACH YEAR PEOPLE STRIVE TO GET THEIR STATIONS APPEARING IN THE TOP TEN OF THE HIT PARADE. IN 1982, ONTARIO HYDRO'S CANDU STATIONS CONTINUED TO BE WORLD LEADERS WITH BRUCE UNIT NO.3 IN THE FIRST PLACE, AND FOUR OTHERS IN THE TOP TEN. THE MANNER IN WHICH ONTARIO HYDRO IS ABLE TO ACHIEVE THESE REMARKABLE PERFORMANCE LEVELS, YEAR AFTER YEAR, IS AN OUTSTANDING TESTAMENT TO THE CANDU TECHNOLOGY.

DURING THE PAST TWELVE MONTHS MORE CANDU REACTORS HAVE BEEN COMMISSIONED THAN DURING ANY OTHER EQUIVALENT PERIOD. THIS IS THE STORY OF THE 600 MW CANDU STATIONS. AS WE ARE TO HEAR LATER THIS MORNING, HYDRO-QUEBEC'S GENTILLY 2 STATION AND NEW BRUNSWICK POWER'S POINT LEPREAU STATION HAVE STARTED OPERATIONS. OVERSEAS, A SIMILAR COMMISSIONING HAS TAKEN PLACE OF 600 MW UNITS AT WOLSUNG IN KOREA AND AT EMBASLE IN ARGENTINA. THE SPEED AND RELATIVELY UNEVENTFUL WAY IN WHICH THESE NEW REACTORS WERE BROUGHT INTO OPERATION IS A TRIBUTE TO THEIR DESIGN AND CONSTRUCTION.

THERE IS MORE GOOD NEWS IN THAT THE HEAVY WATER PLANTS ARE PERFORMING WELL. AS YOU KNOW, MOST COMPLEX CHEMICAL REFINERIES TAKE FROM FIVE TO TEN YEARS TO REACH MATURITY OF OPERATION. AFTER TURBULENT BEGINNINGS CANADA'S HEAVY WATER PLANTS HAVE NOW REACHED MATURITY AND LAST YEAR HAD IMPRESSIVE OUTPUTS WITH UNIT COSTS OF PRODUCTION CONTINUING TO DECLINE. IF OUR HEAVY WATER PLANTS ARE TO CONTINUE ON THE GOOD NEWS SIDE OF THE LEDGER WE OBVIOUSLY

NEED MORE NUCLEAR ORDERS IN THE NEAR FUTURE TO UTILIZE THEIR OUTPUT.

SO FAR, I HAVE EMPHASIZED THE GOOD NEWS BY DEMONSTRATING THAT CANADA'S NUCLEAR INDUSTRY HAS A VERY STRONG BASE BOTH IN URANIUM PRODUCTION AND ELECTRICITY GENERATION. THE ISSUE WHICH IS OF GREAT CONCERN TO ALL OF US IS THE LACK OF PRODUCTION IN THE NUCLEAR MANUFACTURING SECTOR. THE CHALLENGE WE FACE IS TO MAINTAIN A VIABLE CANDU MANUFACTURING CAPABILITY UNTIL NEW ORDERS APPEAR. CERTAINLY, THERE WILL BE CONTINUING WORK IN SERVICE AND IN RETROFIT, BUT A MANUFACTURING FACILITY CAN ONLY REMAIN VIABLE WHEN IT IS FABRICATING NEW PRODUCTS. SINCE OUR DOMESTIC UTILITIES WILL FIND CANADIAN MANUFACTURERS WHO ARE ABLE TO SATISFY THE NEEDS OF THEIR FUTURE BUILDING PROGRAMS, THEN THE DILEMMA WE MAY FACE IS HOW TO REMAIN COMPETITIVE IN INTERNATIONAL MARKETS IF WE DO NOT HAVE ACTIVE INDUSTRIES WHICH CAN REALISTICALLY QUOTE ON NEW OVERSEAS PROJECTS.

IN AN EFFORT TO HELP OUR MANUFACTURING SECTOR, THE ORGANIZATION OF CANDU INDUSTRIES AND THE CNA HAVE WORKED TOGETHER DURING THE PAST YEAR TO TRY TO PERSUADE GOVERNMENT TO REINSTITUTE THE CERNAVODA PROJECT IN ROMANIA. IF THE INTERNATIONAL FINANCIAL DIFFICULTIES CAN BE RESOLVED WE CAN BE OPTIMISTIC THAT THIS VITAL PROJECT WILL SOON BE BACK ON TRACK PROVIDING WORK IN OUR FACTORIES. THERE IS CONTINUED OPTIMISM THAT A SECOND NUCLEAR UNIT WILL BE BUILT IN POINT LEPREAU, NEW BRUNSWICK AND THAT KOREA WILL EVENTUALLY ORDER A SECOND UNIT AT WOLSUNG. SINCE OTHERS ARE GOING TO DISCUSS THESE ISSUES IN GREATER DEPTH DURING THE NEXT TWO DAYS I WILL SAY NO MORE ABOUT THESE PROJECTS. HOWEVER, SUCH ORDERS WILL PROVIDE NEEDED BREATHING SPACE FOR ESSENTIAL SEGMENTS OF CANADA'S NUCLEAR MANUFACTURING SECTOR.

WE OFTEN ASSUME THAT TECHNICAL SUPERIORITY OF THE CANDU TECHNOLOGY WILL ENSURE ITS SURVIVAL. HISTORY REMINDS US HOWEVER, THAT THIS IS NOT ALWAYS THE CASE. FOR EXAMPLE, THE ANNALS OF HIGH TECHNOLOGY RECORD SUPERIOR AIRCRAFT AND OUTSTANDING COMPUTERS WHICH HAVE DISAPPEARED FROM WORLD MARKETS DESPITE THEIR TECHNICAL EXCELLENCE. TO AVOID THIS FATE IS THE CHALLENGE FACING CANADA'S NUCLEAR INDUSTRY. EVENTS OF THE LAST COUPLE OF YEARS LEAD ME TO BELIEVE THAT CANADA WILL RISE TO THIS CHALLENGE AND BE SUCCESSFUL. THE SIGNS ARE STILL WITH US THAT GOVERNMENTS, AECL, UTILITIES AND THE MANUFACTURERS ARE PREPARED TO WORK TOGETHER TO ENSURE THE SURVIVAL AND FUTURE PROSPERITY OF CANDU TECHNOLOGY.

IN CLOSING LET ME REFLECT ON THE FUTURE OF THE CANADIAN NUCLEAR ASSOCIATION. AS INDUSTRY GOES THROUGH THESE DIFFICULT ECONOMIC TIMES AND MAKES THE NECESSARY READJUSTMENTS AND CHANGES, SO THE ASSOCIATION WILL HAVE TO CHANGE. IN THE NEAR TERM, WE WILL HAVE TO DEPEND MORE ON THE INHERENT STRENGTH OF OUR URANIUM AND UTILITY MEMBERS AS WE WORK THROUGH THIS PERIOD OF BUDGETARY CUTBACKS AND REDUCED RESOURCES. THE CONTINUING LOYALTY AND SUPPORT OF ALL OUR MEMBERS IS THE ASSOCIATION'S GREATEST STRENGTH. YOUR ASSOCIATION LIKE YOUR INDUSTRY WILL RELY ON THIS STRENGTH TO BRING IT THROUGH THIS DIFFICULT PERIOD ALBEIT SOMEWHAT LEANER AND STRONGER AND BETTER ABLE TO SERVE THE NEEDS OF YOU ITS MEMBERS.