CLINCH RIVER BREEDER
REACTOR PLANT PROJECT

PROJECT MANAGEMENT CORPORATION
POST OFFICE BOX U
OAK RIDGE, TENN. 37830

April 19, 1978

Dr. Robert J. Smallridge
Assistant Superintendent
Oak Ridge Schools
P. O. Box Q
Oak Ridge, TN 37830

Dear Bob:

INFORMATION ON CRBRP FOR PRINCIPALS' MEETING

I am enclosing the 15 sets of information materials on the CRBRP which you requested for your principals' meeting. We appreciate your interest in providing this material to your staff members. Their role is an important one in informing young people about the unique energy project which is underway in our community.

Please share with the principals our interest in assisting their students in learning more about the Nation's energy situation and the role of the breeder reactor. We have a speakers' bureau which can provide talks and slide programs about the Project ranging from basic to the highly technical. For scheduling a speaker, your teachers or principals can contact Cheryl Sandoz, CRBRP Project Office, P. O. Box U, Oak Ridge, TN 37830 (482-9661, ext. 542).

We are always glad to assist students in the Oak Ridge Schools in obtaining information for research papers and projects on topics related to breeder reactors and the Clinch River Breeder Reactor Plant Project, in particular. A list of a few ideas for science projects is enclosed in each information package.

As we discussed, when you and Mrs. Chandler begin planning for the 1978-79 in-service sessions for teachers, we would be happy to prepare a good program about the CRBRP. The session can be held here at the Project Office or at a location of your choice. We can aim for a general audience or we can provide a more technical format for science teachers.

Thank you again for your interest. Please let us know if you need additional information services.

Sincerely yours,

Sandra Plant

Sandra Plant
Information Officer

IN-78-208
Enclosures

SUGGESTED SCIENCE PROJECTS

1. How a breeder reactor breeds more fuel than it uses

2. Turning nuclear energy into electrical power

3. How nuclear reactors serve the utility industry

4. Designing a breeder reactor

5. How a nuclear power plant (a breeder) is constructed

6. The role of the Clinch River plant in the Nation's energy future

7. The breeder reactor: Turning useless uranium tailings into useable fuel

8. The breeder reactor: extending the Nation's energy supplies

9. How a nuclear power plant is licensed

10. Plutonium: A deadly substance or an efficient fuel?

SUGGESTED RESEARCH PAPERS

1. Any of the science project topics already listed

2. For political science, civics, or economic courses
   (a) Congress and the CRBRP
   (b) The annual budget cycle as applied to the CRBRP
   (c) The economics of the CRBRP

3. For ecology or science classes - Environmental aspects of the CRBRP

Breeder Technology Spreads to Junior High Schools

EIGHTH GRADER MAKES BREEDER MODEL

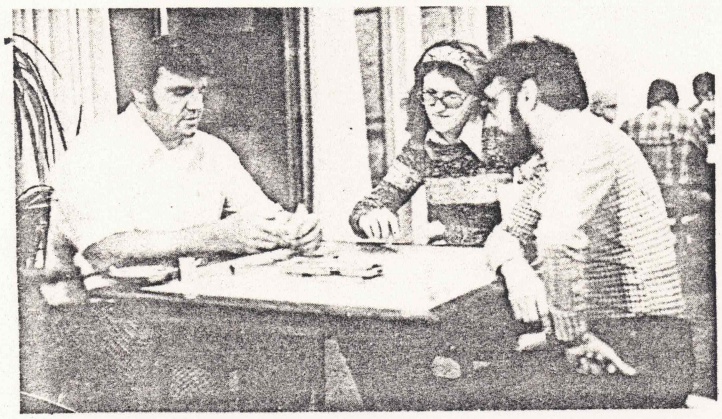
Fourteen year old Kim Turner made a model of the Clinch River Breeder Reactor Plant for her school's science fair. Using poster board for the plant building and a stainless steel mixing bowl for the dome, Kim's model and a written report on the Project earned the eighth grader the equivalent of an A plus from her teacher.

Kim is a student at Cedar Bluff Middle School in West Knoxville. Because of her understanding of the Clinch River Project, Kim has given talks on the subject to four other eighth grade science classes at Cedar Bluff. Her teacher is Jan Wolfe.

Kim's mother, Dianne Turner, is especially proud of her daughter's interest in the Clinch River Project. Dianne is Secretary to Bill Rhyne, Chief of the Licensing Branch.

Kim explained that she got interested in the Project from reading each new breeder publication brought home by her mother. After deciding to build a model of the Plant, Kim had to choose between building it with toothpicks, styrofoam, or cardboard. Finally, she decided to use posterboard for the building and a stainless steel mixing bowl for the dome. Her work on the model required three full days.

Kim Turner, at left, shows off her CRBRP model to her proud Mom, Dianne Turner, a CRBRP employee.



A table of PAC bridge players wheel and deal during a recent evening of bridge. From left to right, Larry Neal, Engineer in the Cost and Schedule Branch in CRBRP's Construction Division; Sally Butler, Secretary, Office of Counsel; and Jim Baker, Engineer in W-LRM's Maintenance, Operation and Test group.

SEVENTH GRADER MAKES BREEDER INQUIRY

"What are some names of scientists who have worked on the U.S. breeder program? When a neutron hits a Pu-239 atom, where do the free neutrons come from?"

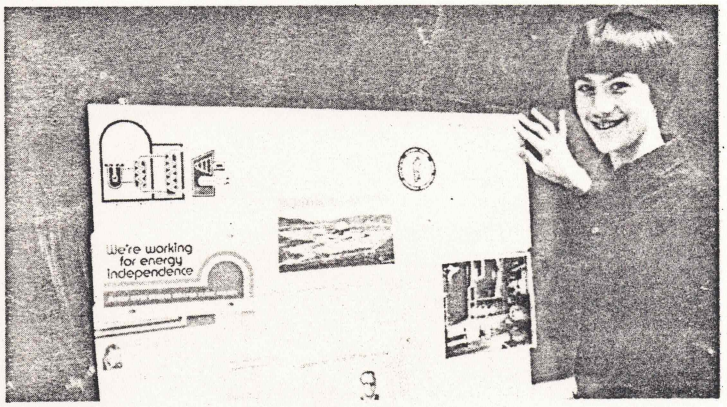
These questions and more were asked by a seventh grade student on a recent visit to the Project Office looking for more information for his science report on the breeder. The young man's interest impressed Lillian Lawson, Receptionist on duty at the time, and she helped him find his way to the Information Division.

There the young man talked with Erle Hill, Technical Information Officer, for more than an hour. The youngster, Kevin Collins, from Jefferson Junior High School in Oak Ridge, presented quite a challenge to Erle who enjoyed every minute of it.

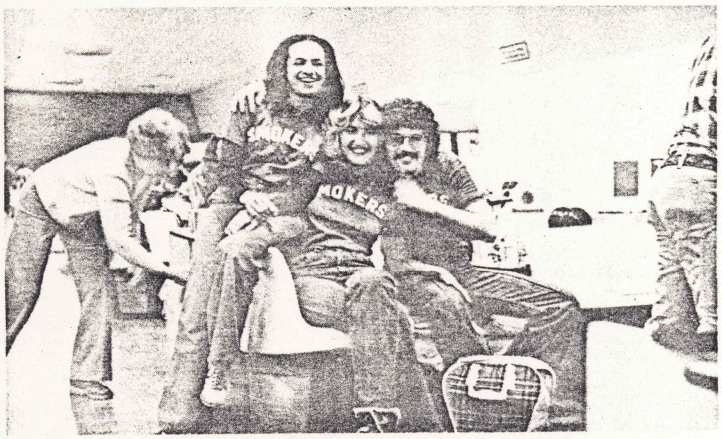
Before Kevin left he arranged with Judy Denney, Editorial Assistant, to invite Jim Anderson to make a Breeder Van Presentation for his class on March 23.

What got Kevin interested in doing a report on the breeder? "Well, I'm interested in new energy sources and since the breeder project is local I figured I could get a lot of good information."

When Kevin returned to his mother who had been waiting in the car all that time, he had a lot to show for his inquisitiveness — a breeder mug and license plate, several key photographs, and lots of brochures.



After a thorough job of research, young Kevin Collins presented a report on the breeder reactor to his science class. "Kevin's paper got a perfect score," said teacher Sam Williams. In the picture Kevin shows off the breeder poster he made.



The Smokers of the PAC's Wednesday evening bowlers take a break. From left to right, Lou Thomas, Secretary, W-LRM's Systems Integration; Kim Moretto, Secretary, W-LRM's Controllers Department; and Anthony Myers, Technician, W-LRM's Systems Integration.

LMFBR Steering Committee Urges Rapid Breeder Development

Following an intensive examination of the Nation's energy options, a large majority of the members of the LMFBR Review Steering Committee issued a report on April 6 that concludes, "we cannot now afford to preclude the breeder option . . . ." Eight members of the twelve-member committee which was organized at President Carter's direction concurred in that judgement and urged that "development [of the breeder option] should neither be interrupted nor delayed until the next century." The other four members issued a report expressing a contrary view.

The majority also urged the speedy completion of the CRBRP; in the words of their report, "the CRBRP is a necessary and essential step in the development of the LMFBR energy option."

Outlining the reasoning behind its conclusions, the majority said, "The diminishing domestic supplies of oil and gas together with probable restrictions on the rate at which coal can be mined, shipped and burned, place constraints on the use of these fuels for the generation of electricity. Nuclear power supplied by light water reactors prior to breeders will place heavy demands on our domestic reserves and resources of natural uranium.

"If 1200 gigawatts of total electrical generating capacity is required (a mid-range estimate in this study) in the year 2000, 400 to 500 gigawatts may be nuclear. This nuclear capacity will require, over the nuclear plants' operating lifetime of 30 years, 2-3 million tons of natural uranium, which may come close to exhausting our uranium supply and limit our ability to expand production. The breeder option should therefore be available for deployment, if needed, by the 1990's," concluded the Committee's majority.

Members of the Committee who made up the majority are Thomas G. Ayers, Chairman, Commonwealth Edison Company; Manson Benedict, Professor of Nuclear Engineering, Massachussetts Institute of Technology; Floyd L. Culler Jr., Deputy Director, Oak Ridge National Laboratory; James L. Everett III, President, Philadelphia Electric Company; Robert V. Laney, Deputy Director, Argonne National Laboratory; Courtland D. Perkins, President, National Academy of Engineering; Chauncey Starr, President, Electric Power Research Institute; and Carl Walske, President, Atomic Industrial Forum.

The report of the majority and a report written by the Committee's minority were sent to the President for his consideration. The report of the minority proposed several stringent nonproliferation criteria which have never even been proposed before. No known breeder can meet these criteria. Members of the Committee who made up the minority are Thomas B. Cochran, Staff Scientist, Natural Resources Defense Council; Russell E. Train, former Administrator, Environmental Protection Agency; Frank Von Hippel, Research Scientist, Princeton University; and Robert H. Williams, Research Scientist, Princeton University.

Project Officials Report Excellent Progress on CRBRP

During the past 12-month period, excellent progress continued to be made on the Clinch River Breeder Reactor Plant Project, reported Project Management Corporation and Energy Research and Development Administration officials to the Breeder Reactor Corporation's Project Review Committee at the group's annual meeting in Knoxville on April 22.

Project officials stated that the CRBRP has now moved to the peak of licensing and design activities. The past year was highlighted by completion of integration of government and utility personnel into a single, solid organization to achieve effectively the goals of the Project; release of the Final Environmental Statement by the Nuclear Regulatory Commission; intensive effort in answering NRC questions and in reaching much agreement on a plant design that will satisfy licensing requirements; completion of most preliminary designs and several final designs for the plant's systems; placement of additional equipment contracts, bringing the total to about 64 percent of the dollar value of all the plant components; and start of fabrication on a significant number of major plant components.

Particularly impressive strides have been made in the CRBRP design which is rapidly being finalized. The preliminary civil and structural designs have been completed for the steam generator building and the control building. The final concrete designs have been started. Most of the instrumentation, control, and electrical systems are nearing completion of preliminary design and several systems are in the final design phase.

Breeder Science Project Wins Top Prize for Memphis Student

Brad Kaufman of Memphis did a science project called "Thank Goodness For The CRBRP" for the 23rd Memphis and Shelby County Science and Engineering Fair. Brad's project won first prize and a cash award of $50 presented by the Memphis Light, Gas, and Water Division, members of the Breeder Reactor Corporation.

Brad wrote a letter of thanks to Cheryl Sandoz, Secretary in the Information Division. Writes Brad, "The reason for this letter is to thank you for making this possible by sending all the information that you did. One year ago I did not even know what a 'nuke' was, but now I can read and fully understand the CRBRP Technical Progress Report from beginning to end."

Brad's letter to Cheryl expressed a wish to visit the Project this summer to become acquainted with the engineers. His prize-winning project was a model of the reactor core, along with two posters on the heat transfer system and a lengthy report on the advantages of the breeder.

The youthful breeder enthusiast is 15 years old and a junior at Laurelwood School in Memphis. His life's ambition is to become a Nuclear Physicist and work with lasers.