

June 1, 1974

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QUALIFICATIONS OF CHARLES E. SHORTT

1. I am currently employed as Environmental/Energy Economist with the Cost-Benefit Analysis Branch, Directorate of Licensing, U. S. Atomic Energy Commission. I have participated since November 1971 in reviewing and analyzing social and economic effects of proposed nuclear power facilities including the impacts of alternative energy sources for generating electricity, and alternative technologies. I assisted in the preparation of the first formal AEC guide (May 1972) for use by utilities in meeting information requirements accompanying license applications for completed and partially completed nuclear facilities. I also am responsible for methodological research of cost-benefit analysis.

2. I have a broad educational background. After completing two years of majoring in chemical engineering, I received a Bachelor of Business Administration degree in 1961 from Texas Tech University majoring in economics and business administration. In 1965, I received my masters of business administration degree from Texas Tech University also majoring in economics. Fifteen hours of course work were completed from 1963-1970 at the U. S. Department of Agriculture Graduate School encompassing power systems engineering, data processing, and engineering and mathematics for economists. In addition, a direct energy conversion course was taken at Arizona State University in January 1970.

3. Prior to my present position, I have had a diversified work experience in government and industry.

From April 1970 to November 1971, I was a member of the Fuel Policy staff of the Office of Air Programs, Environmental Protection Agency. I was responsible for planning and recommending alternate energy and fuel utilization strategies, programs and policies as they relate to air quality. I performed independent research on short and long term environmental and economic implications of alternate EPA programs and policies, both regional and national. I served as management advisor on economic matters relating to energy, trends in nuclear and electric power developments, Plowshare and coal gasification programs, direct energy conversion and other exotic energy concepts. I performed benefit-cost analysis regarding mobile and stationary sources of air pollution. I was task leader for a Northeast Corridor Energy Study. Administrator and Technical Director of \$350,000 national fuel policy computer model contract with Battelle Memorial Institute at Columbus and a \$50,000 multi-fuel transportation study with the Bureau of Mines. Made presentations before the Office of Science and Technology (OST) and the Council on Environmental Quality on environment-related energy problems.

From September 1969 through April 1970, I was an energy economist with the Energy Analysis Group of the Bureau of Mines. My responsibilities included input for a major energy study in the area of nuclear energy, direct energy, direct energy conversion, general economic indicators and model building. I provided support to other task coordinators on activities

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Guest Lecturer at Fort Belvoir, Va. on Energy Economics;
June 1971.

Participant at U. N. Symposium on Nuclear Energy and the
Environment; 1970.

Author of Thorium Chapter and Co-author of Uranium Chapter
of Bureau of Mines' 1970 Mineral Facts and Problems.

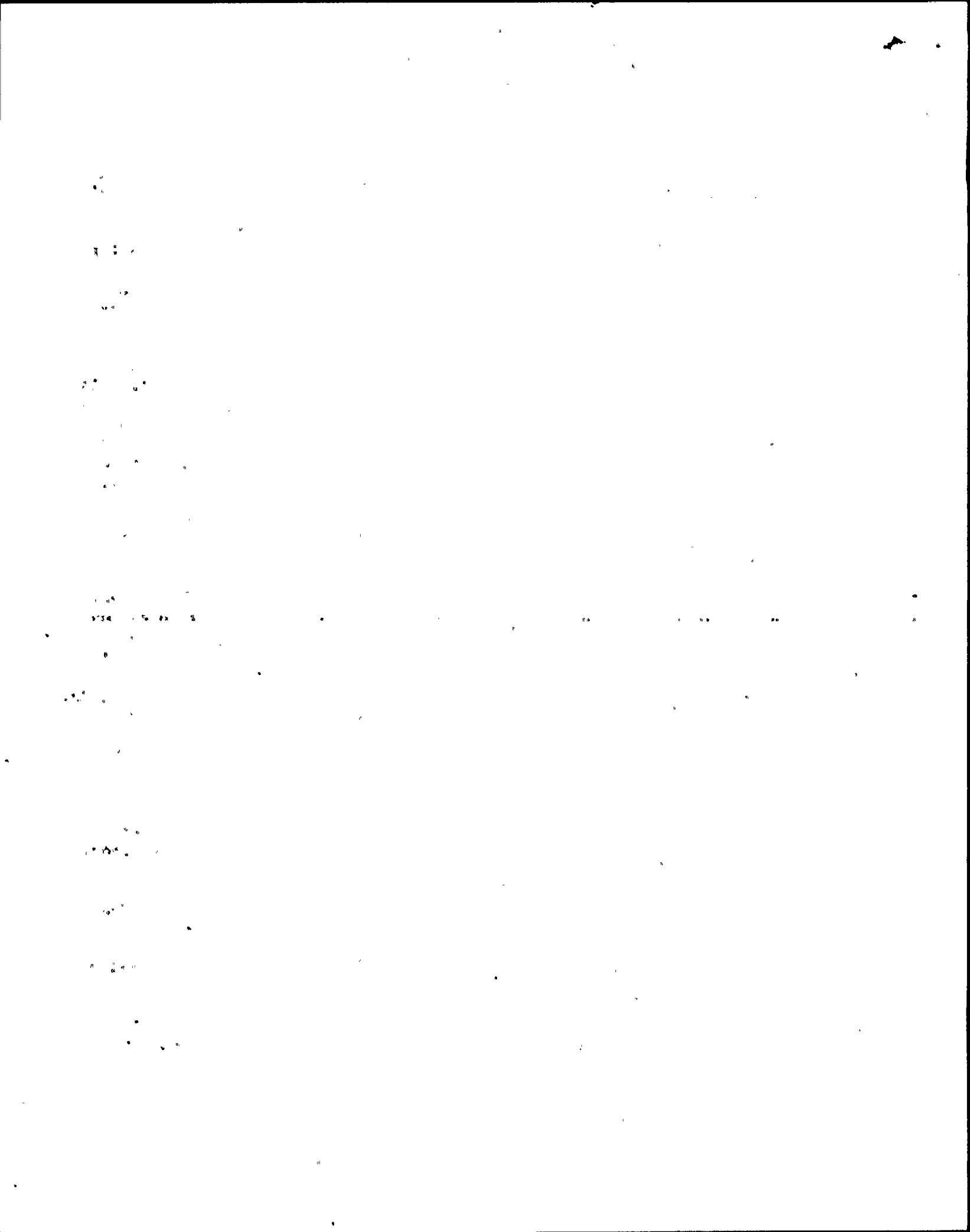
Member of Organizations:

American Economic Association

American Association for the Advancement of Science

Washington Operations Research Council

Izaak Walton League of America (Rockville, Maryland Chapter)



relating to various fossil fuels and fuel transportation. Author of Thorium chapter and co-author of Uranium chapter of Bureau's 1970 Mineral Facts and Problems. Performed benefit-cost analysis for proposed Bureau R&D activities such as coal gasification. I kept Bureau officials informed on competitive developments between nuclear and fossil fuels for electric generating purposes. Followed developments for Group on such new technologies as MHD (magnetohydrodynamics), fusion, fuel cells and solar cells. Bureau's representative to the National Academy of Sciences Ad Hoc Panel on Depleted Uranium.

From November 1967 to September 1969, I was a member of the Union Carbide's Atomic Energy Commission Combined Operations Planning staff. As a consultant to AEC I prepared and reviewed economic and technical studies including domestic and international, political and legal aspects of AEC planning, to assist the Atomic Energy Commission in optimizing the overall operation of its \$10 billion production and weapons complex. I developed methodologies for finding economic solutions to specific task assignments.

From July 1965 through November 1967, I served in the capacity of Operations Analyst in the Division of Operations Analysis, U. S. Atomic Energy Commission. The position required the study of economic and technical considerations of energy resources--their availability, costs, methods of transport and utilization--with particular emphasis on nuclear characteristics and requirements, both domestic and foreign. I worked on a series of ad hoc studies for AEC: resource and end-use forecasting; cost-benefit-cost effectiveness analysis; and the study of legal, social, economic, and technical implications of various policy questions. I assisted in the preparation of AEC's Forecast of Nuclear Power Through 1980. In February 1966, I received Sustained Superior Performance Award for "Outstanding contributions to complex economic analyses of the role of nuclear power and the exercise of unusual initiative and diligence...."

4. Other Professional Activities include:

AMR "Energy Crisis" Seminar Speaker on: "Availability of U. S. Coal Resources" and "Availability of Uranium Resources." November 10-12, 1972, NYC.

Lecturer at U. S. Department of Agriculture Graduate School on Energy Economics; January 1972.

EPA representative for National Academy of Sciences Ad Hoc Panel on Depleted Uranium; 1970-1972.

Made presentation before Council on Environmental Quality and OST Energy Policy Staff on environment-related energy matters; 1971.

