

# A GENERAL LOS ANGELES

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ASME Committee of Past Presidents  
Two Park Avenue  
New York, NY 10016

Dear Committee of Past Presidents:

I am writing this letter to sponsor Arthur S. Mefell's election to the grade of Fellow in ASME. I have known Art since 1953 when we both worked for North American Aviation. Art first worked at Rocketdyne on the development of the first fully American Rocket Engine based on Rocketdyne's experience gained from building an American Prototype of the German engines captured in WW II.

He worked in the Design Analysis Group and in 1956 became its supervisor. He was always developing ideas of his own and never waited to be assigned problems. Early in his work at Rocketdyne, he developed the design method to enable the turbo pumps to run at the proper LOX/RPI ratio by trimming the pumps to the correct wheel diameter. This of course was critical to obtain a high over-all efficiency.

Art was supervisor of the group during the development and building of the large 10K cluster engines. He was largely responsible for the method used to effectively steer these huge engines.

Art was not only outstanding by virtue of his own contributions but he was able to inspire those who worked with him to produce to the top of their own ability. His group was outstanding. Everyone took their problems to Mefell's group for the benefit of their suggestions. They were one of the early users of the large IBM digital computer. Art encouraged and sponsored its use even when one had to program in machine language and use octal in dealing with the machine programs. I am less familiar with Art's work at Pratt & Whitney Aircraft. However, I even hear rumors of his success cross the continent.

Art was very active in ASME. He was a member of the Executive Committee of the Los Angeles Section working his way up through the offices. It was largely due to his efforts that the L.A. Section hosted a Gas Dynamics Symposium followed by a short course in combustion stability at the California Institute of Technology in the summer of 1964. He was also active in the formation of the Advanced Energy Systems Division and has been active in its executive committee since its formation.

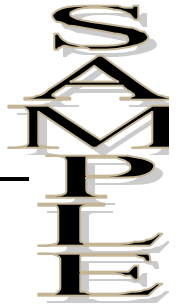
If I can be of any assistance in helping to elevate Dr. Mefell to Fellow grade, do not hesitate to call on me.

Sincerely yours,

Keith Spons  
Director, Mech. Engrg. Dept.  
Aerojet General  
321 E. Bay Street  
Los Angeles, CA 90013

# THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

Two PARK AVENUE, NEW YORK, NY 10016 (212) 591-7000



ASME Committee of Past Presidents  
Two Park Avenue  
New York, NY 10016

Dear Committee of Past Presidents:

Although I have had no personal contact with Dr. Mefell before he joined our organization (Pratt & Whitney) in late 1965, I had known of him by technical reputation for several years before that. It is with great personal enthusiasm that I join his many friends in recommending his elevation to Fellow grade in ASME.

As is public knowledge and printed in ASME records, Dr. Mefell has been very active in Society affairs. Prior to his joining Pratt & Whitney and coming east to Connecticut, he had held successively important offices in the Los Angeles Section from Member in 1956, through Treasurer in 1962, Secretary in 1963, and Chairman in 1964. Since coming East, he has maintained interest and activity in the Advanced Energy Systems Division, the Fuels and Combustion Technology Division and the International Gas Turbine Institute, as well as memberships in several sister Engineering organizations.

His present international reputation had a good start with his participation in authorizing a prestigious volume entitled "Rocket Engines" published by McGraw Hill in 1960. Since that time, he has authored or been the principal authority with others in publishing upwards of fifty articles or recorded presentations, tracing his activities in rocket engine and turbojet developments.

Actually there are 3 main areas in which I have had first hand association with Dr. Mefell and in which he had significant responsibility for major achievement in turbo engine development. The first is illustrated by his patented design of a sonic sensing control to adjust the oxidizer/fuel ration to assure that only negligible amounts of each would remain at burnout.

The second major achievement was the result of scientific research along with patent development of a petroleum based gel fuel. The resultant patent, covering the gel's thixotropic properties, allowing it to be pumped and burned, resulted in a major step toward safety. Fires planned for test as well as those resulting from accidental crashes, have frequently been found to be controllable because of the non-fluid fuel developed by Dr. Mefell.

The third area is one in which only a general statement can be made. It concerns a device, which is incorporated into the pilot's instrument panel for measuring TT5. However, the details are not only Company confidential but also are U.S.A.F. "secret information." Suffice it to say that it is the latest and probably one of the major achievements in Dr. Mefell's phenomenal career.

With the above few words added to those of the other sponsors, I trust that the Committee of Past Presidents will find it desirable to add Dr. Arthur S. Mefell's name to the distinguished rank of ASME Fellows.

Sincerely,

Charles E. Mich, P.E.  
Fellow ASME (Retired)  
1 Pine Hill Heights  
San Diego CA 91458

# PRATT & WHITNEY AIRCRAFT

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East Hartford, CT.  
203-555-4668

SAMPLE

ASME Committee of Past Presidents  
Two Park Avenue  
New York, NY 10016

Dear Committee of Past Presidents:

I am privileged to endorse the candidacy of Dr. Arthur S. Mefell for elevation to the grade of Fellow in ASME.

I have known Art for the past 12 years since I joined Pratt & Whitney's turbine blade section. Dr. Mefell's design improvements for the combustion resulted in such a uniform exit temperature that turbine blade life was extended by nearly 85%. The smoke reduction incorporated in the Mefell design was a major factor in the adoption of the JP962 engine by both Boeing and McDonnell Douglas in their SPT aircraft.

Another significant contribution was Art's development of a flow shield for military jet applications. This device diffused the hot jet exhaust in a manner which confused heat-seeking missiles. This saved many lives among our military fliers during the Vietnam War.

Dr. Mefell has frequently given company seminars to young engineers, which developed their professional ability and provided them with new and innovative design methods.

I found the publication "The Protection of First State Turbine Blades in Aircraft Engines" Trans. ASME (1973) to be the most instructive and innovative paper published on this subject in the past 15 years.

I heartily urge the elevation of Dr. Mefell to the grade of Fellow. I know Art will always be a credit to our profession and the ASME.

Sincerely yours,  
Bertram A. Wick, Supervisor  
Turbine Blade Section

# TALBOYS ENGINEERING CORP.

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ASME Committee of Past Presidents  
Two Park Avenue  
New York, New York 10016

Subject: Promotion to Fellow of Arthur S. Mefell

Dear Committee of Past Presidents:

It is with great pleasure that I respond to you concerning Arthur S. Mefell's promotion to Fellow Grade. For the ten years that I have known him, he has been outstanding in his field, Aircraft and Missile Propulsion. His patent of Gel fuels for aircraft engines is being adopted by the Air Force for its strategic bomber force. NASA's Ames Laboratories are working with the Air Force to investigate the feasibility of incorporating it in commercial aircraft to reduce the danger of fire after aircraft crash. It is estimated that if his fuel system is used, deaths from aircraft fires will be virtually eliminated.

If an Engineer's reason to be is to serve the community, then this one development warrants promotion to Fellow Grade. Arthur's expertise in aircraft propulsion will have an effect that will be felt for years to come.

Sincerely,

Timothy Talboys,  
President  
(ASME Member)



ASME Committee of Past Presidents  
Two Park Avenue  
New York, New York 10016

Dear Committee of Past Presidents:

I understand that Arthur S. Mefell is being proposed for ASME Fellow. He is well deserving of this honor.

I have known Art since 1968 when he gave a talk on Airbreathing Engines to the Long Island Section. I have had the opportunity to chat with him several times since attending the Winter Annual Meetings in New York.

Although I'm not as conversant with Combustion Turbines as some of my colleagues, I do know that his work on the improvement of combustors has enabled Pratt & Whitney to compete more effectively as drivers for Gas Turbine Peak Shavers because of the lower equivalent heat rate of their machines. Art has been responsible for this improvement in effectiveness.

It is recommended that Arthur Mefell be promoted to ASME Fellow.

Sincerely,

Wolfgang Ecknab  
Life Fellow, ASME