Northern Arizona University
College of Engineering and Technology,
Flagstaff, Az

Sept. 25, 1999

Noel Keen
Lawrence Livermore National Lab
Livermore, Ca.

Dear Sir;

This letter is intended to formally introduce myself as a developer on the
Parallel Particle Framework (**PPF**) project. In this letter I will cover
who I am, my background, my understanding of the problem description
and a preliminary risks analysis for the project.

My name is Martin Casado, and I am a senior computer science student
at Northern Arizona University. I have worked at LLNL for two sum-
mers one of those being with A division. My background, with regards
to the project, includes the following.

- Familiarity with DEC UNIX, Linux, AIX
- Experience on the LC computers including:
  - Blue Pacific
  - the Dec Tera Cluster
- Experience working with the IMC physics package
- Knowledge of OpenMP and MPI

From our discussion of the PPF, my understanding of the project is
as follows. We need to design and implement an API which will be
integrated in physics modules within the KULL framework. The API
will provide a high level interface for parallelization of particles over

large distributed memory super computers.

A preliminary list of the risks for this project is as follows.

- Incompatibility with existing code
- Lack of support for different particle types
- Lack of scalability
- Main design platform is still largely expiremental
- Communication barriers between NAU and Livermore
- Lack of intuitive programmer interface
- Time constraints

Though there are a number of risks, through careful planning and program design we will be able to create a fully functional Parallel Particle Framework. I look forward to working with you for the 99'-00' academic year.

Sincerely,

Martin Casado

cc: Pat Miller
    Stu Wecker