CAN IT HAPPEN HERE?

Keith Knudsen, Ivan Wong, Christopher Rojahn and Arrietta Chakos
Northern California Chapter of the Earthquake Engineering Research Institute

The recent devastating magnitude 7.9 earthquake centered in Sichuan, China resulted in a staggering number of children dying or being seriously injured by destruction of their schools. Latest reports indicate that a *minimum* of 6,900 classrooms suffered structural collapse. In any society, the loss of a child due to an inadequately designed or constructed school should be totally unacceptable.

This earthquake has led many here in seismically active California to ask "Can a large earthquake result in similar consequences for our children and schools?" Public school buildings in California are in general among the safest in the nation. California's Field Act was enacted in 1933 after the Long Beach earthquake destroyed 70 schools and severely damaged 120 more. The Field Act requires a high standard of seismic design for public schools. The State also calls for regulatory oversight of school construction projects and carefully enforces this requirement.

However, like nearly all categories of buildings, some older public school buildings built after passage of the Field Act were designed and constructed to standards less rigorous than today's. In 1999 Assembly Bill 300 required the Division of the State Architect (DSA) and the Department of General Services to conduct a "Seismic Safety Inventory of California Public Schools". The resulting 2002 report concluded that more than 7,500 public school buildings in California "require detailed seismic evaluation to determine if they can be expected to achieve life-safety performance."

What does that mean? It means that we are not sure that those 7,500 buildings will be safe in a large earthquake. Some of these school buildings could collapse in such an event. In many communities, concerned parents, teachers, and administrators have tackled the problem of unsafe schools, and as a result, schools in these districts are either new or have been retrofitted.

So how can students, parents, teachers and staff know if their schools are safe? ASK! Ask your school administrators and school board whether they have requested and reviewed this important report. The report is available from the Department of General Services website. School buildings in the AB300 Report are assigned to one of two categories: CATEGORY 1—buildings that are likely to perform well in future earthquakes; and CATEGORY 2—buildings that are not expected to perform as well as Category 1 buildings and that require detailed seismic evaluation to determine if they can be expected to achieve life-safety performance. When inquiring about the seismic safety of buildings in your school district, ask the administrators of your school district whether they have asked for the seismic safety category assigned to each school in the AB300 Survey. Ask what they learned from the report. If data provided by DSA reveals that your school buildings are in Category 2, the next step is a detailed evaluation of those school buildings. The 2002 AB300 report was a preliminary office-based study, and

more careful site-specific evaluation is needed. So the final step is to ask whether your school district is working with expert structural engineers on the earthquake safety of your schools. If not, please recommend that they do so. If your school or school district cannot afford to evaluate these buildings, your school may be able to rely on qualified local engineers who can evaluate your buildings. In many cases this may be a parent or resident of the district that is willing to volunteer. These evaluations should be conducted in accordance with recently developed standards for evaluating the seismic resistance of buildings.

If your children's schools are structurally weak, there are state funds to help districts repair schools and reduce the risk. Proposition 1D provides state funding to help repair schools that are life-safety risks. California voters have approved billions of dollars for bond monies reserved to pay for building new and repairing old schools. In fact, up to $200 million is available in general obligation bond funds for the seismic retrofit of schools. There is no fiscal or morally sound reason for school districts to delay undertaking seismic evaluations of the Category 2 buildings identified in the AB300 study.

We have the ability to make children in California public schools safer in disasters. We should not allow a lack of financial resources to leave us uncertain about whether our schools are safe for our children when the next large earthquake occurs. Parents, students, teachers and school boards should work together to responsibly protect students in our state – they deserve no less.