

SESSION TITLE: Reactor Operations, Control and Instrumentation

<p>Strengths</p> <ul style="list-style-type: none"> • Nuclear data generation • Good UK SME base – niche capabilities • Detector manufacture • Digital systems • Generic condition monitoring • Understanding of UK regulatory process • Operator training and internationally recognized capability • Maintenance of advisory and technical capabilities • Some work on safety certification of embedded software 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Access to national labs & facilities limited by: <ul style="list-style-type: none"> • Bureaucracy • IP issues • Affordability • Business dominated by large offshore companies • Poor security regulation • Instrumentation a ‘poor relation’ to rest of nuclear activity • Overburdened with regulation • Systems Integrity in a NP context
<p>Opportunities</p> <ul style="list-style-type: none"> • MOX fuel • Lifetime extension issues – bridging the gap • Safeguards • Safety • Cyber security • Emergency planning, terrorism • Fault detection • Data maintenance – recording and longevity • Certification of embedded software • New control system strategies for Gen IV • Load following strategies – grid issues • Control systems for decommissioning • Long life control systems for waste management & storage • Experiential feedback 	<p>Threats</p> <ul style="list-style-type: none"> • Loss of access to facilities • Loss of access to nuclear data • Obsolescence • Life extension delaying new reactor build • Environmental hazards • Maintaining legacy capability • He³ shortage