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ROLE PLAYING GAMES IN SOCIAL SCIENCE EDUCATION

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by

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Abstract

This project involved running several pilot tests of international negotiation live role-playing games to see if these games were ready for dissemination to schools for use as extracurricular activities or as part of a class. Observation of the test runs indicates that these games are useful for consciousness-raising outside of a class and very engaging for students. They would have several advantages when integrated into a class. To facilitate the dissemination of the game material, I provide advice for people who would like to run these games in the future based on my test runs.

1. Introduction

1.1 Historical Background

This project is a part of an initiative involving several years of design, revision, and assessment of the usefulness of live role-playing games in education with technically oriented students. Games of this kind put students in the roles of delegates from various countries, working at a United Nations conference to resolve a socio-technical issue. The design work and assessment was primarily done as a series of Interactive Qualifying Projects by students at Worcester Polytechnic Institute with Prof. John Wilkes from the Social Science and Policy Studies department. Copies of these reports (back to those written five years ago) are available from the WPI library, and all of them are available from Prof. Wilkes.

The first game developed was the AEGIS game. The game itself was documented as complete in May of 1995 in a report submitted by Seann M. Ives and N. Harrison Ripps. Their two project partners were delayed in completing the analysis of evaluation research data on the game's pilot run for a year by a car accident. On the surface, this game has students playing delegates from the world space agencies trying to work together so that they would be ready to stop a potential strike on Earth by a large

asteroid or comet should one appear. Actually, it is about organizational mindsets, vested interests, and cultural diversity as it affects collaborative enterprises that could redirect a technology and change its social impact.

During a run, students see how difficult it is for agencies with different mindsets and agendas to work together for a common goal. Their level of success is assessed based on how well they overcome all the divisive features of the game and create an organization that can draw upon some or all of planet Earth's space resources to address the potential threat. The more they can marshal to this cause, the shorter the time period that the Earth is vulnerable and the more capable the system is when the asteroid comes (as determined by a roll of the dice). Ultimately, the question is whether they "saved" the Earth or not by finishing the project in time.

Several Interactive Qualifying Project teams have revised and analyzed the AEGIS game since that initial report. The first of these was *Analysis of the AEGIS STS Laboratory Module* by co-authors Benjamin Bennett and Michael V. Caprio, Jr., completed in April 1996. This project was the analysis of the first run of the AEGIS game with fifty WPI students. The report focused on the degree of "engagement" in the roles expressed by the diary entries

and how that related to student perception of how much they got out of the experience of playing it.

Jeff Jakobsen and Joel Waterman added a physics curriculum to go with the game for high school students, hoping that it could then be used to support science education as well as social science education. Their report, completed in October 1996, was titled *A Shield for Planet Earth?* However, the game was not adopted by either of the two high school teachers who saw the curriculum. The primary problem was how much class time could be devoted to this one topic. A month for mechanics only was not feasible in their view.

Revision of the AEGIS Space Policy Game was written by Adam Mossey, Lawrence Marcoux, Steven Lord, and Bradford Foulkes in March 1999. This was a revision of the game to fit the context of an Engineering Ethics class at Carleton College. In order that it could be run in a single typical class, the number of necessary roles was cut in half to 24. Their team also standardized the character sheets, which varied in length and format at the time. Their project was complicated by Carleton College's decision to delay offering their Engineering Ethics course for a year. A last minute effort to rearrange the game for a run in the Worcester Public High Schools in which each of the six

schools would send a delegation to a run at WPI was a failure. Approval was contingent on making more revisions than the remaining time allowed. However, the revised unit was used at WPI, in Wilkes's Intro to Sociology class.

A spin-off revision, called *The Chinese Conundrum*, was completed a couple months later by Shaughn H. Bryant and Sean M. Cooper in May 1999. This revision stressed international competition in space, rather than cooperation. The question at issue was what the other world space agencies would do if China was the next nation to send men to the moon.

Dissemination and Revision of the AEGIS Space Policy Game was completed by Joshua Carvalho, Jeffery Gladu, and George Spino in January 2002. This ended up being primarily a revision of the cultural aspects of the game, especially the culture briefings, taking 200 page books on each nation and excerpting them to 50 pages of reading for each player. Roles changed nationality (if possible) when briefing materials were not available. No books on Italy or Britain were located, but those nations were kept in the ESA delegation anyway. German, French, and Swiss materials were located. Hence, the Swede became Swiss and the Spaniard became a second German married to a Spaniard. A new analysis was done on the engagement issue as it affects

performance (grades) on the assessments dealing with materials taught via the game. The evaluation research effectively made the case that live role-playing games help certain kinds of learners that are otherwise hard to reach perform well on the finals.

The most recent work on the AEGIS game was a report titled *AEGIS Dissemination* by Mirek Cymer, completed in April 2002. It documents a run of the game at WPI for a mix of college and high school students with the assistance of the WPI chapter of Student Pugwash and the WPI Science Fiction Society. The Science Fiction Society had developed new Brazilian delegation roles to fit those of the science fiction book *Firestar* by Michael Flynn. In other respects it was a typical run of the game, except that Brazil was the world technology leader in Aerospace, rather than the USA or Russia. The high school students all headed a delegation and those whose support staff was subordinate enjoyed the game. Those with subordinates that had character sheets calling on them to be difficult or independent had an unhappy experience. This problem was thought to be situational. With all high school students, it should be okay to have divisive roles.

While the AEGIS game is the most developed educational game, concurrent work has been done on other live role-

playing games as well. Dana Schlosser and Kenneth Volock developed a game based on a nuclear power plant siting dispute for 6th through 9th graders. Their report, titled *Nuclear Power Live Role Playing Game*, was completed in April 1996. In 2000, Pat Kaplo ran the game and did a full scale MBTI-based analysis for the Lancaster Middle School (part of the Nashoba Regional School District), with three classes of 8th graders. This one month unit was a smash hit with the class involved. However, Pat was literally teaching the class in such as way as to prepare them for the game as a grand finale. Other work was done on Bronze Age, A Medieval Arms Race, and "Monkey" trial spin-offs at the high school level for Doherty High School in Worcester. Other games on the Ozone issue, the FDA, and Quabbin Reservoir were also produced and field tested as part of one month curriculum units for 5th and 6th graders.

When members of Student Pugwash went on a trip to visit the United Nations, the AEGIS game was mentioned to key peace activists. These people didn't seem to understand that the Asteroid issue raised the same questions as did the ongoing disarmament talks. They took the position that if the game wasn't about a serious or "real" policy issue under discussion then it was a waste of time.

Frustrated by this rebuff, Prof. Wilkes advertised a new game development project at WPI. Nuclear power and proliferation was (as always) an issue of concern to the U.N. The new game, titled *Global Nuclear Diplomacy*, was written in May 2001 by physics majors and Science Fiction Society stalwarts Brian Dewhirst, Christopher Dunn, and Glenn Townsend.

This game puts students into the role of delegates from various countries, assembled to determine if the world is complying with the Nuclear Non-Proliferation Treaty and moving toward eventual disarmament of nuclear weapons. Their field test was cursory, focusing on logistics and readability and involved only experienced game players from the Science Fiction Society.

It needed to be field tested with an actual class and its intended audience, high school honors students. The authors' concept was that after the AP Physics or History test the teacher would be looking for one last class project to end the year. This game was their offering to that teacher. Wilkes, of course, wanted the peace and disarmament activists to adopt it more broadly. He felt its minimalist briefing materials made it suitable for consciousness-raising events run by activists for various educational groups, churches, and other public groups. It

had to be punchy, portable, easy to run, and self contained to be used in this way. It fell to me to field test the nuclear game in a "conference" and "classroom" environment to see how well grounded and engaging it was—compared to AEGIS, with its extensive briefing papers.

1.2 Reasons to Use These Games

There are several reasons that a public school social studies teacher might want to include U.N. meeting format live role-playing games in his or her curriculum. It is a good way to reinforce what students have already learned about the U.N. As an alternative method of teaching, analyses of AEGIS have proven it to be more effective in reaching students that learn best through "sensing" rather than "intuition".[1] Traditional assignments, such as book reviews and term papers, often favor the "intuitives". In the context of the game, students are encouraged to learn some background material, but then they use it in action packed debates. We think they also retain it better because they saw how it was useful and it is tied to a vivid memory or experience. The material is no longer abstract and linear, but multilevel, textured, concrete, and personal.

Students learn new information from each other about the different countries and the focal issue, often in ways

[1] Refer to George Spino et al.

that allow them to learn without even realizing that they're learning. It is fun, and they are acting and showing off. By assigning easy-to-write diaries and reflections (or even a laboratory assignment), teachers can evaluate a student's comprehension of the material, which can be especially useful for those teachers (and students) who prefer non-test methods of evaluation.

Of course, all of this presumes that the game is "engaging" and that the individual students live their role in particular. This can be demonstrated by speaking through and for their character in the game and in their diaries. The nuclear nonproliferation game had not yet passed that test, having been run only once by and for gaming enthusiasts with the authors present. The authors did not only answer technical questions, either. Displeased with the way the French delegation was playing its part in their game, one of the authors stepped in and took over the delegation halfway through the game. We would later find that the French role could be pivotal if played well. However, the game could survive a weaker player in that role if other European delegations took on the U.S. instead.

1.3 The Current Project

This project involved studying the game in practice to see if the United Nations meeting format live role-playing games would engage high school and college students in the context of a class and as an out of class event. How the nuclear nonproliferation game could be integrated into a class was a special concern, as this had never before been attempted. In particular, the game I studied the most was the Nuclear Proliferation Game by Dewhirst, Dunn, and Townsend, though a team was concurrently revising it to focus on the questions raised by Chernobyl, specifically addressing civilian nuclear power plant safety. The ultimate goal would be to continue to use these games as part of a WPI class (as an alternative method of teaching and possibly evaluating the students), and see if it was suitable to disseminate into high school classes as well.

The first part of the project examines whether or not the games would be an experience that would engage the non-gaming enthusiast students and encourage them to participate, as AEGIS did. If students saw the nuclear proliferation game as boring or pointless, they would not learn as much from the event as they would have in a normal class. On the other hand, if the games were engaging and students wanted to participate, then the games would at

least be a powerful motivator and encourage students to attend to their briefing papers and to learn about the topics and issues that were being discussed in advance of the "class" that was the game. Then they would have to be at least as effective, and would be more fun and memorable, than a normal class discussion or debate.

My strategy for determining the degree to which the game under study was "engaging" for consciousness-raising purposes as a standalone event, and in the context of a class, was to run it three times and compare it to two other games, one of which was the more highly developed AEGIS game.

The first game run was primarily to consider logistics and timing issues, as the sponsor of the second run was limiting us to four hours in a 2 day conference. The pilot test game was run with the help of students from the Massachusetts Academy of Mathematics and Science, especially those in its Model U.N. group. The help of the Social Studies & Current Events teacher was also of critical importance. My concern was that in the full scale run to follow I would have exactly four hours during a conference, and that included time to debrief and gather comments. The game was originally designed for a six to eight hour run by the authors. Mass. Academy gave me a

three hour Social Studies / Current Events block of time. We didn't finish—but I got a feel for what would be required to do so. A few Model U.N. students stayed for one more hour to give us advice as well as to complete the game.

Although this first game was primarily to get the logistics worked out, it was also useful to see how the students reacted, and I observed their level of involvement informally. Of considerable concern was the tendency of students representing "marginal" nations to drift and become bored. By that I mean those who did not know much about their country since they had not been briefed in detail on it and considered their role unimportant. In this case the students representing Iran and Egypt tended to drift off target and try to "take over" other more important countries that were undermanned in this run by writing over their country placard on the table. Those playing the U.S., European nations, Russia, and China did not seem tempted to drop a serious demeanor and colonize other nations. The problem was primarily with South Africa and the Arab nations. Since they lacked nuclear weaponry, the students thought they had no say. There would be no chance to brief the delegates extensively during the game in the upcoming conference format or to have them research

their country in advance, so students would have to be engaged in other ways. A representative from the activist Pugwash organization, played by Prof. Wilkes, would be employed to whisper strategies and stances reasonable for 3rd world nations to consider, getting them into the action with an "agenda" if the character sheet did not suffice to draw them in.

After learning from that game, I ran the Nuclear Proliferation Game with a group of 16 high school students at the Student Conference of the National Consortium for Specialized Secondary Schools of Mathematics, Science, and Technology (NCSSSMST) that was held at WPI on October 24-26, 2002. As the name of the consortium indicates, these are gifted students attending high schools focused on math, science, and technology. The next day at that conference, I observed the Project AEGIS space policy game that Prof. Wilkes ran for another group of about 20 NCSSSMST students. As noted earlier, that game tries to get the delegates from world space agencies to agree on creating a shield to protect Earth from potential incoming asteroids.[2] It is also more developed, but in this case there was no time to read about the countries from the culture briefings, so it had

[2] The AEGIS game is fairly well known at WPI, having been run 12 times on campus, and ten of those times in the SS1202 course. Evaluation and research on it has revealed that this kind of live role-playing game has special value for some types of learners.

to stand alone as a technological issue consciousness-raising event as well. It was not clear how this game, which had been designed for a class, would serve this purpose.

After learning how engaging live role-playing games can be, I studied their usefulness in a class on "The Society-Technology Debate". Prof. Wilkes used a variation of the Nuclear Proliferation Game studying Chernobyl (done by the Patrick Groulx & Andrew Gallant IQP team) as a part of his SS2208 class, and arranged for students (in lieu of a term paper assignment) to participate in a run of the actual Nuclear Proliferation Game on their own time in the evening. About 20 out of 24 took him up the offer, and 18 followed through. Through my observation of these games, studying their in-role and out-of-role journals, and examining what they learned from these games as expressed in an essay exam, I researched how engaged the students were, how well the students learned from the event, and how well they retained what they learned. I also briefly looked at the possibility of using the game to evaluate the students' understanding of the material.

While running and observing these games, I learned quite a bit about the logistics needed to successfully set up and run one of these "International Conference" type

games. I've included this information in this report as well with the hope that others can learn from these experiences, both the things that worked well and those I'd do differently next time.

The ultimate goal of this project is to disseminate these international diplomacy games to secondary schools, so that they can be integrated into classroom curricula as an additional method of presenting material, involving students, and possibly evaluating students. Unlike Jakobsen and Waterman, and even Dewhirst et al., I have the Social Studies teacher in mind as the point of entry, rather than the science teacher.

2. Engagement

The initial test run of the Nuclear Proliferation Game at Mass. Academy helped us to figure out the logistics of running the game, but it also gave us our first look at how engaging the game could be to a group of high school students. While time constraints and conflicts significantly limited the amount of time that the students could spend in the game, most of them seemed quite involved for the time that they were there. Those who extended their time to stay to the end were of the consensus that the game made them more interested in the topic. They also provided helpful advice regarding the logistics of the game, which allowed us to improve it for the run at the NCSSSMST conference a few days later.

My personal reaction to moderating the game at the NCSSSMST conference was very positive. Students seemed very interested in the discussion and engaged in their roles, often leaving the main conference in groups to negotiate privately with other delegates. Their comments at the end during our debriefing period reflected this fact, showing a generally high level of interest. One even claimed that he definitely thought other students would "get into it" as well if it was used at their school. A show of hands indicated that almost all of them hoped their schools would

adopt this approach—or at least do more along these lines. Hold in mind that we were talking to the 5-10% of 200 strong students who decided to miss two other sessions to come play the game. It was a self-selected group. Further, the most interested students were the ones talking, so it is plausible that the few students who did not comment were not as interested and simply wanted to leave and get to their next activity as soon as possible. However, I think that if that attitude existed, it was definitely the exception rather than the rule.

After giving the students a week or so to reflect upon their experience with the game, I sent out a survey to gauge the game's effectiveness and if they still remembered it and would comment on their engagement. Seven people out of the sixteen had responded by the time of this writing, and their responses were overwhelmingly positive. Table 2.1 summarizes the survey results.

Table 2.1 – NCSSSMST Student Conference Nuclear Proliferation Game Survey Results

	SD	D	—	A	SA
1. I am interested in current world and political affairs.	0	0	1	2	4
2. I try to read or listen to the news on a regular basis.	0	0	1	3	3
3. I usually talk with my friends about what's going on in the world around us.	0	0	2	2	3
4. I learn better when working as a group with other students.	0	1	2	4	0
5. I learn better from my peers than I do from a teacher.	0	1	5	1	0
6. I usually remember what I learn in Social Studies or Current Events classes.	0	0	1	5	1
7. I usually see how things I learn in Social Studies or Current Events classes apply to my everyday life.	0	0	2	3	2
8. I would be more interested in learning about current world issues if these topics were presented in a more interactive fashion.	0	0	0	6	1
9. I prefer being evaluated in class with methods other than testing (such as projects, oral reports, portfolios, and so forth).	0	0	3	2	2
10. My experience with the game motivated me to learn more about nuclear proliferation issues.	0	0	3	3	1
11. My experience in the game motivated me to learn more about social studies and current events in general.	0	0	2	4	1
12. I learned more about the issue by playing the game than I would have if I had just read a textbook covering the issue.	0	0	0	4	3
13. I would like my social studies or current events classes to include games like the one I played.	0	0	0	2	5
14. I found the game to be engaging and interesting.	0	0	0	3	4
15. It is easier to remember what I learned while playing the game than it is to remember what I learn from a textbook.	0	0	0	3	4

SD = strongly disagree; **D** = agree; **—** = aren't sure or indifferent;
A = agree; **SA** = strongly agree

Of particular interest are the questions near the end, especially questions 13 and 14. Every person agreed or strongly agreed that he or she found the game to be engaging and interesting. They also all said that they would like their social studies or current events classes to include games like it, preferring learning from a game to learning from a textbook, and said they would be more interested in current world issues if they were presented in a more interactive fashion (such as, for example, a live role-playing game).

These responses present a clear pattern, and one that is in contrast to what they said about group work, peer education, and social studies in general. Despite the somewhat lower lack of interest in current events and lower confidence in learning with other students instead of from a teacher, they responded well to the game. Of course, this one was "entertainment" and "consciousness-raising", rather than part of a formal class with substantial preparation.

It is possible that the 9 non-respondents did not find the game interesting enough to even bother returning the survey, or possibly they were too polite or just too busy with other things to return the survey. The possibility also exists that they never received it, as the surveys were sent to the schools and not the individual students. Although seven surveys are not even 50% of the self-selected sample, I am satisfied with it as corroboration with what I personally observed while running the game. It also agrees with the comments given during the debriefing time at the end. If the group of people we had playing is representative of science and technology oriented students in general, live role-playing games show great promise as engaging ways for students who are not really into Social Studies to learn about the social issues related to science and technology.

On the other hand, this group was clearly self-selected compared to those who would be in a typical class. Most classes that are not required are also going to be self-selected, but probably not as much as the NCSSSMST group of 36 out of 200 that elected to miss two other activities to play one of two 4 hour LRPG's during the 2 day conference.

In addition to running the Nuclear Proliferation Game at the NCSSSMST conference, I took the opportunity to observe Prof. Wilkes running and moderating the Project AEGIS game for similar NCSSSMST students. For this game, I took on the role of the press, which allowed me to observe the students and back-room negotiations without being caught up in keeping order over the proceedings. Although the game started out a bit slower than mine (the students seemed more fatigued on day 2 of the conference), the students started to be involved after a little prodding by the moderator that it was okay to speak with other delegates out of the main hall but in-role. By the end, the students were again quite involved cutting side deals and working together, further confirming my hypothesis that students get involved and engaged in live role-playing activities. They seem even to throw off the effects of a late night of conference schmoozing during a morning

activity given the right stimulation. In this case, they had the challenge involving how to "save the world" by inventing a mechanism to foster international cooperation in the area of space technology development. AEGIS was a success, but if anything the Nuclear Proliferation Game was even more successful in a conference setting. It was better designed for a situation that was not conducive to detailed briefings in advance.

Part of this may also be due to how I assigned the roles. In the nuclear proliferation game, the delegations were small (usually two people), and I mixed students from different high schools. No two people from the same school were in the same delegation. This meant that people from different delegations knew each other, and were very willing to yield time to one another.

By contrast Dr. Wilkes had five delegations of 3-4 people and a few "strays" representing countries on the U.N. oversight committee. He decided to cluster those from 1 or 2 schools in the same delegation, to have them "face off" against the schools from other delegations. An "us" against "them" attitude was more evident in the AEGIS game, and at the end several students wanted to know which team had "won". That question has never come up after the nuclear proliferation game.

3. Class Integration

After deciding that live role-playing games do involve and engage students in a quick consciousness-raising application (There was little or no independent study or briefing homework, though most participants got their briefing folders and character sheets the night before.), I needed to find out if it would be useful in a class environment. Some ideas to integrate the game into a class are to use it as a replacement for a final exam or term paper, or simply to use it in class as an alternative method of teaching a particular topic. It is even possible to teach an entire class using this method, although doing so is somewhat beyond the scope of this project. Barnard College at Columbia University has done much work in this regard, teaching some classes entirely through role-playing a historical event. This "all game" course has been taught at Smith College as well.

This part of the study was accomplished through running two related games in Prof. Wilkes's "The Society-Technology Debate" class. As one continuing theme in the class was the tendency of technology to develop momentum and get out of control, it seemed appropriate to include games on attempting to control nuclear technology. The first of these games occurred in class and was actually a

variant of the Nuclear Proliferation Game. This variant was developed by the Groulx and Gallant IQP team and was based on the events that happened during and after the Chernobyl reactor incident. The desire for civilian power programs despite the problems created for controlling nuclear weapons proliferation is highlighted by the Chernobyl case. The reactor employs a less safe design-but one that could be dual-use, producing both military weapons grade plutonium and civilian electrical energy. The second game was a run of the original Nuclear Proliferation Game and occurred outside of class as an optional replacement for a term paper assignment, as mentioned before.

The attraction of the Chernobyl game in class was that the "briefing" process was streamlined, as you simply showed a video on the events, the physicists studying the reactor site and outlining the remaining problems and risks. The agenda was supposed to grow out of that. The video was shown about 10 days before the game began. This was a mistake. Memories faded, and the agenda drifted toward more general issues.

Prof. Wilkes moderated the first game. It rapidly became clear that the authors had left it too ill-defined for an initially ambivalent (non-volunteer) audience. The authors wanted to change the "military" role of each

delegation, but ended up dropping it instead. It was too late to change countries and roles from the Dewhirst game. Little progress was made in the first (2 hour) session of the game. It was not clear when to break into small groups, or what the goal was.

The next session was very different as teaching assistant Jesse Hurley and Prof. Wilkes ignored the authors' plans and structured up the game with a new agenda—statements of purpose and direction from the U.N. Secretary General and materials on the International Atomic Energy Agency's mission and organization were distributed. It was impossible to finish the game in the remaining time, but things went better. In the end, the student delegates created a much more powerful and ambitious IAEA to oversee the civilian power plants, and had learned quite a bit about the problem involved.

In the second game, moderator Jesse Hurley gave out more in the way of briefing materials than I had used—and did it immediately. In particular, he distributed the original nonproliferation treaty text to the students, as opposed to the paraphrases and description of it written by Dewhirst et al. In general, this seemed to make the conference more realistic, and some students who attended both games mentioned that they felt more prepared for the

second game than the first. The agenda and committee structure was clear. There were scheduled breakout sessions with Jesse at one and Prof. Wilkes (playing the role of a lobbyist) at the other.

In both cases, students wrote in-role and out-of-role journals describing what they did and what they learned through the game. Through these journals, we can gather insights into the level of engagement of the game, the impact it had on the students, and if the students learned about the topics that the game was meant to teach them.

In general, the journals for most students show a high degree of engagement and interest. Most in-role journals show that the students were engaged enough to think in terms of what their character from another country might do. Also, several students were engaged enough to give suggestions on how they thought that the game could be improved so that they would learn even more. Many students thought that they learned a lot through participation in the game. Particularly in the out-of-role journals, students said that they didn't have nearly as much interest in the issues surrounding nuclear technology before the game. After the game, one student wrote that "I feel that I actually learned something about international organizations (such as the IAEA) and protocols that are

designed to allow civilian power programs to exist while attempting to stop nuclear arms."

Of course, as soon as they learned about them they concluded that they were not powerful enough and greatly increased the IAEA's powers and responsibilities. The final debate was critical in that Prof. Wilkes had pushed his "committee" to make a very ambitious proposal unlikely to pass muster at a real conference, just to see how far they would go. It narrowly succeeded in getting majority support, essentially an alliance of smaller "marginal" nations uniting to whip the great powers into living up to their promises and taking responsibility for the devices they sell on the world market. This was no simple resolution criticizing the U.S., but a rule forbidding the sale of nuclear devices. They could be "rented" or "leased" but not sold. The idea was that the building (seller) nation could not get free of the responsibility for how the facility is actually used. Hence, they'd have to monitor what they sold, helping the IAEA out all along the way to carry out one of its missions, or be liable for the consequences of greed or neglect.

The idea that they learned a lot, and thought like real delegates by the end, was clearly present in many other students' journals as well, several going so far as

to state specific new ideas and opinions they now have of the real international organizations as a result of participating in the game. Some students thought that the resolutions achieved by the delegates were realistic, saying "If no such agency [the IAEA] existed, I think that we would have created one." Other students saw them as completely implausible, saying "I am not sure that the game gave an accurate feel for how difficult it is to manage such problems. I suspect that the results of the games are excessively optimistic," and "When it comes to something as powerful and as technically advanced as nuclear power it is very difficult to get governments to agree to anything but their own rules and regulations." As the goal of the class was to teach students about the difficulty in creating organizational structures capable of controlling technology, the games fit well into the class and did its job of teaching the students while keeping them interested.

The final essay exam item dealing with this was considered "too easy" by some members of the class this year. In past years anything so focused on the nuclear debate as an illustration of the general problem of technology out of social control would have been considered so "hard" as to be unfair by at least part of the class. The grades were all A's and B's. The games added a great

deal to the course, especially the Dewhirst game, once it was "structured" up by the moderator, Jesse Hurley. It had succeeded twice in outperforming the comparison game, though in this case it benefited from the "warm-up" of the prior Chernobyl game. Some painful lessons had been learned in advance. Also having a pro-active moderator who did not present the game "as written" probably helped me out. I had tried to present the game as originally written when I was the moderator. I, too, had felt the need to add some structure, but part of my job was to evaluate the existing game. Jesse was an educational success, period. He elaborated the briefings to some extent as well as structuring the flow of events.

Compared to the AEGIS game it was still lightly briefed, but it was no longer as "minimalist" as the Dewhirst philosophy had led his initial version of the game to be. For educational as opposed to recreational purposes you just can't let people make things up as they go along, but this is still a game where getting the materials a day in advance would suffice. One could read all one needed and wanted to know in an hour. It takes a week (4-6 hours of homework and 4 hours of class time) to prepare a class for the AEGIS game when the goal is to teach about cultural diversity through it.

4. Logistics Advice

In the process of running, helping, and setting up these kinds of games, I have noticed or discovered some advice to help others with future runs of the games. Much of this advice is simply from the experience of those students in related IQPs, Prof. Wilkes, and me, but some of it comes from student feedback as well.

The first thing to ensure that you do is to get briefing papers to the students in advance. Students need time to read through them, and they can't both read them and pay attention to the conference at the same time. When we ran games and did not give the students their briefings ahead of time, the students always commented that they wanted the briefings sooner. In a classroom environment, the teacher would also probably want to encourage the students to do some background research on their own.

In games that are related to current events, such as the nuclear proliferation issue, the teacher may need to use some recent articles as briefing materials to ensure that students are up-to-date. For example, during our run in Prof. Wilkes's class, North Korea was announcing that it had a nuclear weapons program and planned to send the IAEA inspectors away. Student demonstrators were in the streets of Tehran as well, and the government was shifting in the

direction they demanded. This information requires students to base their arguments on what is occurring in the real world. Although the Dewhirst game came with several invented stories designed to create tension between the countries, we have discovered that in general reality is quite tense and complicated enough.

Articles on events in Iran were given to the two players representing that nation in the classroom run to see if it would affect how they played the game. It clearly did. The subordinate player denounced his pragmatic superior, took over the delegation, and renounced his superior's self-serving deal on ideological and religious grounds. The supervisor decided that it was not safe to go home, so he defected.

An alternative to keeping students up-to-date with current events is to fix the time that the game takes place to a particular point in history, and use the real news coverage of that time to set the stage permanently.

The people setting up a game need to ensure that adequate time is available to complete it. Time was very tight, especially in our four hour games, and sometimes we needed to push the students along in the right direction faster than we might need to otherwise. In the case of the four hour AEGIS game for the NCSSSMST conference we

invented a scenario in which a prior meeting had already covered half the usual agenda and handed the group a fait accompli. They would have to pick up where the last meeting left off and either endorse or refute the prevailing position. Also, the length of the session needs to be looked at. In short one hour sessions, it takes some time for the students to get comfortable with and back "into" their character again, and often by the time students get really involved it is time to adjourn the session. A single block of 4 hours is probably as effective as 5-6 hours divided up into 3 sessions.

Lastly, in a classroom the teacher needs to ensure that all players participate, especially when the players are not self-selected volunteers. This can be difficult, because in some games a particular character is restrained from speaking out a lot, either because of who the character is or restrictions that the government has placed on him or her.

Requiring in-character and out-of-character journals helps immensely, because the students need to pay attention and explain why they didn't speak out at a time when a matter of concern to their country or character came up. In one case a Chinese diplomat agreed to something that no one expected him to agree to, namely on-site inspections. His

"allies" came over to "reason" with him in terms of vested interests. The next day it came up as a joke and the player had thought it over, recanted and claimed to have been "under the influence" at the time he said such a thing and knew he had "lost face" over the incident. He even invented an official reprimand from Beijing and sent it to himself.

Also, it can be helpful to go around the conference room getting comments from each delegate, as it requires everyone to participate, sometimes under the guise of allowing all of the delegates a chance to speak. However, in some of the games, especially with the runs with the high school students at the conference, we had to keep a speakers list, time people, have them yield time to one another, and get rather formal at times. They all wanted "air time" and there was not enough to go around. It depends on the group and the proportion of extraverts present.

While this may not quite qualify as advice, I believe that it is worth noting that for the nuclear proliferation game at the NCSSSMST conference we didn't have any two people from the same school on the same delegation, spreading them out amongst the countries. The result was people yielding time to people they knew on other delegations. In the AEGIS game, we put students from the

same school in the same delegation, and saw very little of that. In a few dramatic cases, such requests were summarily refused during the second game.

5. Future Directions

There are several directions that this project could go from here. We'll soon have three international conference live role-playing games that are ready to be disseminated to schools from WPI alone, so people need to contact schools and present the case for including these games in appropriate courses. Other people could work on having these games run as standalone consciousness-raising events.

In addition, the games can still be improved further and revised. For example, we have not yet exactly determined the optimal amount of structure and briefing material that needs to be included for different audiences and usages. Although that amount will vary based on the purpose of the particular run of the game, multiple versions of each do not yet exist. In a classroom, teachers may want students to do most of the background research themselves, while as a standalone event the amount of briefing material will be a function of how much time the players have to prepare before the event. Brian Ellis has been doing work concurrently with this project to allow game organizers to select which level of detail on cultural briefing materials to include with a particular run of the

game. It takes the form of a database manipulated by some customized software.

Also, there is plenty of room for more games to be written. The "At Issue" book series, including *The United Nations*, *Missile Defense*, and *Nuclear Security* (from San Diego: Greenhaven Press), provide viewpoints for debate that would be appropriate as instant position briefings for games on domestic American policy, complete with which senator or diplomat of what party really wrote that position paper used in the debate. Any issue that one could have a debate about could be presented in the more entertaining game format, where participants could take on the roles of prominent supporters of each viewpoint.

6. Conclusion

After running and observing several runs of these live role-playing games about international negotiations, it is clear that these games engage students better than most traditional classes and hold their interest. They have considerable impact as well. Thus, they are a potentially powerful teaching tool, reaching students who might not be as interested in the subject initially (Social Studies for physical science majors) and students who learn better by doing rather than by reading a textbook.

However, they are not as time efficient or under instructor control as a lecture. The question of efficiency revolves around the goal of the class. You cover more in a traditional class if you mean "did the teacher mention it" rather than "did the students learn it and will they remember it". If you stress the student's sense of having had a realization or insight that is leading them to rethink their position, then the live role-playing game is highly efficient. Nearly everyone has such moments in a period of four hours.

These games do well when integrated into a classroom if there is a good connection point to a main theme of the course. The same sort of engagement and interest evident at the conference was there in the classroom when the same

game and roles were used. However, there was a need for considerably more preplanning, structure, and research in advance to have it operate as effectively as a good lecture in terms of coverage of material. Process information is conveyed better than in a lecture, and by sprinkling factual content through the many character sheets and briefing papers you can set the stage for students learning a lot from one another and getting some valuable group problem solving experience while learning about a socio-technical issue.

I conclude that these games are ready for dissemination, both as standalone games for consciousness-raising and as part of a class curriculum. Hopefully high school and college social studies teachers will see this report as sufficient encouragement to try these games in their own classrooms. The games developed a step or two during my field testing and should no loner be used in their original versions. The appendices to follow will document the game materials as they now stand for the Dewhirst et al. game.

A1. Role Sheets

These are the role sheets we used for the runs of the Nuclear Proliferation Game. These are directly from the original Dewhirst et al. paper, in the order they recommended the roles be used.

A1.1 England / Edmonds

Jack/Jill Edmonds (39)

Head diplomat for English delegation

History:

1962 - Born in the suburbs of London, England. Parents are Charles and Elizabeth Edmonds. You had Two brothers, one sister, and were the youngest child.

1968 - Moved to central London and began attending Elizabeth Memorial Elementary School. Met two good friends, B. Jesserit and Pat McDowel.

1978 - Became head of the debate team at her high school, start of junior year.

1980 - Moved to France to attend college at Sorbonne, nearly a full scholarship.

1984 - Graduated Sorbonne with honors, moved back to London.

1985 - Hired at the United Nations in London as a clerk, but was soon moved to the position of Assistant Diplomat. Hired Betty Jesserit as a personal secretary, and began having Patty McDowel over for tea at least weekly

1998 - Promoted to head diplomat for foreign relations in London. Still invites friends over for tea regularly.

Description:

You have always been good at speaking. You just have a way of expressing yourself that everyone around you agrees with. This has been true ever since you were a little girl, and you have learned to use this particular talent effectively. Also, you learned early on the importance of close friends. Your two best friends, Betty Jesserit and Patty McDowel are good examples. Both of them are influential and experienced in their own

fields, and they often assist you when you receive an important assignment. They will be assisting you as advisors in this conference, and you are very grateful for their help.

Views:

Your greatest virtues are peace and cooperation, but they are not overriding features of your personality. There is a time and place for everything, and violence can have its uses. If at all possible, you will find a non-violent middle ground for all concerned. You do not play favorites and you do not bow to threats. And most importantly, you do not bluff.

Trust your advisors, Jesserit and McDowel, they've been loyal friends since elementary school. Jesserit is very good at understanding people, so she might have some information on what the other delegates are thinking. McDowel is very up to date on the science behind nuclear weapons, their capabilities, and roughly which countries have what capabilities.

Goals:

To keep this conference peaceful, prevent any conflicts from cropping up, and get as many signatures on the final treaty as possible. You will do this in the most expedient means possible, which may be negotiation, but can also come in other forms. Keep you eyes open for alternative solutions to problems, because at conferences like this one, the most direct route is very seldom the easiest.

Orders:

See goals.

Costume ideas: Good dress or business suit, professional and charismatic.

A1.2 America / Hedge

Geoff / Heather Hedge (46)

Politically Selected Diplomat, USA

Born Feb 8, 1956 outside of Toledo Ohio to well to do parents, no siblings

1972 - Attended NYU as a Political Science major with a minor in western history.

1976 - He attended graduate school in Washington DC and wrote a thesis concerning the geopolitical effects of certain policies of the Carter Administration (very critical). He worked as an aide for a congressman part time, and when he finished his masters he accepted an offer of a full time position.

1980 - Gets a job at Reagan's White House (far) under the secretary of state

1988 - He transfers to the department of the interior under Bush.

1992 - He worked for a republican senator in DC as his chief aide.

1994 - The Senator becomes a diplomat in the Balkans region and he remains the senator's aide. He begins to interact diplomatically with other aides, to facilitate smoother negotiations.

1997 - His superior, the former senator, becomes very ill following a stroke, and Geoff is forced to take over negotiations. Geoff does well, and becomes more of an assistant diplomat than an aide, although he still does a great deal of research for the ex-senator.

1998 - His boss passes away suddenly after his apparent recovery the previous year. Geoff is appointed to take his place. He continues to serve as a diplomat in the Balkans.

2001 - Under the new administration, Geoff receives another promotion and finds himself in a more important position in the state department. He has been asked to negotiate in these nuclear talks following the recent escalation of tensions.

Costume suggestions: Power suit

Description:

His father was a liaison with the American government for a major defense contractor, and his mother was a political advisor for his father's career. He was schooled privately at a prep school at the insistence of his mother, and was only home

during breaks and holidays. In college he engaged in many political debates with his more liberal classmates and graduated Summa Come Laude in '76. During the Nixon election campaign, he worked at a telephone soliciting delegations from registered Republicans. As his career progressed, it slowly but surely took over his life until there was really nothing left apart from his job. He became an excellent political researcher, a relatively good diplomat, and made friends in several political circles, but had no real life outside of the work.

Personality:

You give off the feeling that you are a politician from inside the beltway. You seem very competent, but perhaps slightly manipulative. You are proud of your Republican status, and will espouse generally conservative viewpoints in more casual conversation and in private life. Your favorite topic of conversation is politics.

Goals:

You are hoping that this conference will lead to new opportunities to advance your career. Although it may be important to keep the world free of nuclear weapons, it's more important still to advance the cause of the United States, and to stay on the good side of the Republican Party.

Views:

You doubt that these conferences will lead to anything of real use other than perhaps a promotion. There have been several such talks in the past and it is unlikely that such a poorly organized conference will yield better results. As for America's involvement in recent affairs, you think that, while it may not be necessary militarily to do missile research, it is somewhat necessary politically.

Orders:

You have been told to convince them that the USA shouldn't be forced to obey old nuke limitation treaties. Agree to a new treaty which places critical deadlines further into the future for the USA, while encouraging other nations to disarm. Prevent

discussion of missile defense as part of the talks, if possible. Try to relax tensions and stall, so lengthy negotiations to relax tensions can take place. Encourage United States or Security Council enforcement of the treaty instead of UN enforcement. The US doesn't want its nation's missiles being monitored by the UN, but its fine for other countries to be watched by the US.

A1.3 Russia / Krusburg

Peter/ Natasha Krusburg (41)

Russian Diplomat, and head of delegation

1960 - You were born outside of Moscow to a father in the Communist party

1978 - Finished high school and entered the University of St. Peter

1982 - Found a job at the Bureau of Foreign Affairs

1989 - Period of political upset in Russia, you managed to rise while others fell from grace

1998 - Your friend assists you in some political dealings, leading to your selection for the conference

2001 - Your diplomatic position has required you to do another job, this time without the luxury of a large bribe to grease palms.

Description:

Because your father was a politician in the Communist Party, you received a good education and never had to worry about there being enough food on the table. You finished your high school education and were accepted to the University of St. Petersburg. There, you studied political science and some history.

After you got a job in the Bureau of Foreign Affairs, you quickly moved up in the ranks thanks to blackmailing your superiors. You used the funds you gained by these means to ingratiate yourself to the real movers and shakers in the USSR, which probably prevented those you were blackmailing from getting rid of you. Most of your influential "friends" didn't stay influential after all of the political upsets, but some did. You rose to a comfortable position and continued to build personal political support within the new Russia. A friend of yours decided to see to it that you received a diplomatic assignment, and you managed to convince the two parties involved in the discussions to agree to a compromise thanks to your charms. The money passed underneath the table didn't hurt matters either. You knew better than to question where your friend got money for bribes of that size. Despite his lack of a visible source of income or official government

position, he still handed you a tidy sum to hand over to each of the negotiators of the disputing factions. You made sure he gave you a generous tip... not a tip he knew about, but you're sure he meant for you to skim some off the top.

Personality:

You give the impression that you are very friendly and charming, but sometimes-perceptive people notice you're a little slimy. Pretend to be a used car salesman, but a little more subtle and quiet.

You don't think you are corrupt, nor do you think that taking advantage of every weakness you can find is wrong. You don't believe that anyone else is any more honest than you are, which is something of a corollary to the previous statement. You don't believe the situation at this conference will actually result in nuclear war if it happens to fail, as you don't believe nuclear war to be in anyone's vested interest.

Goals:

You wish to advance your own political career and look good back home.

Orders:

You were told to ensure that the conference concludes in Russia's favor, but you haven't been given the official authority to ensure a treaty ratified at this conference will receive the blessing of those back home. You hope to schmoose this past anyone who objects, either inside or outside of your government.

You have requested and received a military and scientific advisor, as you wanted to know exactly what is in Russia's best interest before you started to work for it. You'll take credit for what they say of course.

Costume: blue jeans and a polo shirt, to look American and cool.

A1.4 China / Deng

Deng Lao/Lei (50)

Ambassador for the Chinese Delegation

1951 - Born to a Factory worker in Beijing, Two brothers, no sisters

1965 - You spent a great deal of time working in your father's factory, due to changes to the educational system by Mao, demanding that students do manual labor as part of their education

1969 - You managed to obtain a party position with the Ministry of Trade.

1977 - You are promoted within the Party to a position of some power

1982 - You are sent to the US embassy, in order to better learn what the Party can sell to America. Dirt-cheap consumer goods are high on the list.

1993 - Marries a colleague in the ministry, in a simple civil ceremony while both are on leave.

2001 - Due to your negotiating abilities, and your familiarity with America, you are selected for the conference by the foreign ministry.

Description:

Your father was promoted to the factory overseer during your very early childhood, during one of the ambitious 5 year plans. During your later childhood, the relative military unimportance of the factory, which produced consumer goods for domestic use, almost led to its shutdown. Minor grafts and other forms of corruption kept your family relatively comfortable and free from interruption and excessive bureaucracy. It took you a few bribes, as well as your father's position, to get you into the Ministry of Trade. But within a few years, due to natural aptitude and a few more bribes, you are promoted within the party structure. Your new position allows you to decide the output of several factories, pending contradiction from above. You spent your time in the Trade Ministry pushing the exportation of cheap goods to America, and the wealth that this position brings to the Party slowly raises you through the Ministry of Trade. Your position allows you to quietly push for a more normalized trade between America and China.

As you continue to advocate flooding America with cheap consumer goods. This of course has the effects that the people back home are looking for, and you begin to rise within the ministry.

In a major push with in the Foreign and Trade ministries to gain Most Favored nation status from America, aware that this can only accelerate the import of high technological goods, and increase the output of his factories.

Views:

More or less a diplomatic professional, you should remain calm under most circumstances. You are used to the give and take of the negotiating table, and understand that compromise can be reached without compromising ideology.
You have no family back home, and have become very attached to your occupation. Your greed may occasionally trip you up as well.

Goals:

Do not antagonize the US. Too much of the Chinese economy depends on exports to the US. Look for moneymaking opportunities, and if needed, use under the table methods of dealing to ensure completion of orders. Make sure that this is not detected if used, for you will surely be executed upon arrival at home if caught.

Orders:

Protect China's nuclear stockpile. Sacrifice older model warheads as needed to ensure that sufficient strike capacity remains to destroy any one nation without major missile improvements. Do everything in your power to force other nations to sign a treaty banning nuclear defense. The only nation in a position to erect one is a potential enemy.

A1.5 Taiwan / Lin

(Family name first, given name last)

Lin Hsin-i/ Donglu (46)

Taiwanese Diplomat, and head of delegation

1955-You were born in Taiwan's largest hospital to two Taiwanese natives.

1972-You graduated high school and went to college in the United States, Dartmouth to be more precise.

1976-You returned to Taiwan after graduating from college and entered into government work.

1984-You are promoted to be an assistant to a trade diplomat

1987-Emergency rule finally ended, and your boss stresses democratic reforms a bit more strongly than before.

1991-When democracy came to Taiwan, you were promoted to your bosses position, as he became a Member of Parliament

1996-This was the first year that Taiwan directly elected their president.

1999-You have increasingly seen a movement in public policy away from insistence on being "China" and towards independence.

Description:

Both of your parents were Taiwanese, as opposed to Chinese or Japanese, both of which make up fractions of Taiwan's total population. Both of your parents instilled into you a sense of cultural pride. You have never considered Taiwan to rightfully be a part of China; therefore you don't believe your country should insist on being the legitimate government of China in exile. Official policy hasn't changed enough to add this into Taiwan's public policy. After receiving excellent grades in school, you visited the US to attend Dartmouth College. There, you majored in political science and graduated with a 3.8 GPA. You didn't get into as much trouble as your classmates and avoided most of the American students' experimentation with illicit substances.

After returning to Taiwan, you began working for the government. You started out as an aide, doing clerical work and research in the Taiwanese trade department where you kept your nationalistic political views rather quiet. When the United States officially recognized Communist China, it severed contact with Taiwan. You were both pleased that political reality had begun to reflect the real world and concerned that mainland China would invade. Martial law was still in place, of course. Many of your fellow employees went into more profitable fields, allowing you to advance a little more quickly. You became an advisor to a minor trade diplomat, but he had political aspirations. He began to lobby for democratic reforms with those in control. It soon became clear his politics were nationalistic.

Later, thanks to the support of a rising political movement, the diplomat you worked for found himself in a more influential position and your station rose along with him. You allowed yourself to make your politics more public. At the first true election in Taiwan, you were thrilled to vote. After the populace selected the Nationalist candidate, your position was elevated in importance thanks to your party leanings. Since '96, the Nationalist party's majority in parliament has decreased, but it still remains. In light of recent events, you have been chosen to represent Taiwan in these talks.

Views:

In an international setting you are very personable, breaking the Asian stereotype of being withdrawn. You conform to Asian norms when in that kind of a setting, but you always come off as being very sharp yet tactful. You are very proud of your Taiwanese heritage and of Taiwan in general, and sometimes this is obvious. You believe Taiwan is a sovereign nation with a history and culture separate from that of mainland China. You don't wish to remain dependent on the United States, a nation that doesn't even recognize Taiwan's existence, for your defense. You think Taiwan should become more independent and should seek alliances with nations such as Japan.

Orders:

You are to represent the interests of Taiwan. You aren't to anger the Chinese delegation overly much, but you should guard against treachery. Your first task will be to ensure you get to speak at the talks, as neither the United States nor China recognizes Taiwan as a country.

Goals:

Your chief goal is to aid Taiwan in becoming a recognized independent nation with the capacity to defend itself if attacked. You would also like to advance professionally and politically, but that is much more of a secondary concern.

A1.6 Iran / Al'Aziq

Note: All Iranian figures should be played as male, regardless of the sex of the player, due to the nature of the division of duties between the sexes in Islamic culture.

Amr Al'Aziq (34)

Iranian Political appointee.

1963 - Born the only son of a wealthy oil baron, you were raised in Kerman

1981 - You enter the University of Tehran

1982 - Your father is a civilian casualty of the Iran-Iraq war.

1985 - You graduate with a bachelors degree in economics and begin managing your father's estate

1988 - You begin slowly rising in the bureaucratic structure of oil miners

1997 - Your direct senior moves from oil ministry to nuclear energy department, and you accompany him.

2001- With your department officially committed to reducing tensions, you are appointed by Khatami to head up the delegation from Iran, given your public views on war.

Description:

You grew up in Kerman, close to the wells that your father owned. A child of wealth, you were nominally raised in the Islamic faith, and you were not lacking in material comfort. More bluntly put, you were a spoiled child. After a fairly normal primary and secondary school education, you enter into the University of Tehran, majoring in economics. The science of economy is not one of the most popular courses at the time, as there was still a backlash against western ideas and sciences from the leaders of the revolution.

After the death of your father, his estate reverted to you. But you were not especially happy with the transfer, since the government officials ended up digging quite deeply into the company's finances and ties to the western world. You graduated from Tehran not too long afterward, and moved back to your old hometown, in order to run the

oil wells. You did this efficiently and adroitly, but not with exceptional enthusiasm. You are more interested in spending your money rather than investing it. Your current government doesn't allow the widest of selection of dissipations for the wealthy.

Your familiarity with the oil industries, along with certain acquaintances, lands you a low post at the Oil ministry. Your younger cousin begins to run the family business in your name. You begin a slow and plodding upward trek in the bureaucracy, until you are a secondary assistant to Aghazadeh, the then head of the Oil Ministry. As Aghazadeh moves from the Oil Ministry to the Atomic Energy Commission, he retains you as a primary assistant in his new post.

Views:

You do not want to see nuclear defense over Western states, in case Iran ever does come to blows with them. You do not want a situation where this is needed. You've lost enough family to war that you're genuinely interested in averting conflict. While not exceptionally devout, the Islamic viewpoint does shape your life. You certainly cannot afford to personally cross Mohammed, and therefore you are wary of Ali, the religious advisor.

You will remain cool and gentlemanly, but you may at times seem to have a poor temper, which you try to hide. You are decidedly neutral towards nuclear controls; after all, they're just weapons. Very powerful ones, of course, but all weapons kill.

Goals:

You wish only to see that war does not break out, while at the same time attempting to get your hands on a source of Uranium. While your country has been slowly developing the technology for nuclear power, and in fact you now have a nuclear power agency, you still do not have a source of Uranium, or even a nuclear generator.

Orders:

You are to do whatever is needed to reduce the risk of open war. Iran cannot afford the active aggression of any of its neighbors in the Middle East. As a secondary goal, you are to do all you can to prevent Israel from obtaining nuclear weapons and defense.

A1.7 Israel / Dayin

David Dayin (59)

Head of the Israeli delegation and Minister of Defense

History:

1942 - Born to a Jewish family in Eastern Europe, holocaust survivors, no siblings

1949 - Began home schooling because parents are unable to provide a formal education

1951 - Parents immigrate to Nazareth, Israel, hoping for a better life. You are placed into the public school system

1960 - You graduate with honors from the Nazarene public school. You move to Tel-Aviv for college. Begins attending Tel-Aviv University, unsure of your major

1965 - Graduates from Tel-Aviv University with a philosophy degree, moves to Hadera to find a job.

1967 - Drafted for the Arab-Israeli war, serves as a clerk in Hadera for the duration of the war, and is released afterward

1968 - Becomes a speechwriter and clerk for political candidates in Hadera

1969 - Is elected to the city council of Hadera for a three year term

1972 - Moves to home town of Nazareth to continue political career

1988 - Elected to the Kneesh (legislative body) and becomes an active supporter of the clandestine nuclear armament program

1998 - Appointed assistant to the Minister of Defense

Description:

You have led a somewhat harsh life. Your parents were survivors of the holocaust. You were always the underdog in both high school and college, and you never really knew what you wanted to do with your life. Eventually you fell into politics and found that you were fairly good at it. As a believer in the "Ein brera" philosophy, otherwise known as the last resort, you support the creation and hiding of several small nuclear weapons for the last ditch defense of Israel.

Views:

You're a long-term supporter of nuclear armament, so disarmament sticks in your craw. You will certainly not concede the fact that there are nuclear weapons in Israel, nor will you deny it. You know exactly how many nukes Israel has, but you're not sharing that information. You also have a distaste for Arabs in general, but you will not let that affect your performance at the conference.

Goals:

Maintaining the delicate balance of peace and threats that keeps Israel from being destroyed is a difficult thing at the best of times. You will do your best, however, even if it conflicts with your personal views.

Orders: See goals

A1.8 India / Amist

C. Amist (42)

Indian Diplomat: Semi professional

1958 - You were born in a small suburb of New Delhi, both parents were Brahmin caste

1976 - You graduate near the top of your class and enter the University of Calcutta

1980 - You graduate, and join your country's diplomatic corps

1982 - You are promoted and are responsible for minor agreements with Pakistan

1986 - Despite your parent's wishes, you marry a local girl

1987 - Your wife gives birth to a son.

1988 - You are promoted again to the head of the Corp you once worked with

1990 - You receive a second child, a daughter.

1992 - You are moved into a translator's position at a slight pay increases

1994 - Your wife gives birth to a second daughter.

1996 - In a pinch, you help with the negotiation of a minor trade treaty with China

2001 - You are selected for the conference, due to your negotiating and linguistic skills.

Description:

Because of your parent's lineage, you were able to attend a private school in your neighborhood. There, you studied sometimes and relied on natural aptitude at other times, especially when dealing with languages. You received some of the highest marks in your class, and on that merit (and that of your caste) you were accepted into the University of Calcutta. At your chosen school, you entered into a study of politics and languages, especially foreign languages. You were, in general, more concerned with socializing than with studies, but natural aptitude allowed you to excel in your chosen areas at the university.

Once you had graduated from college, you were given a position working with the embassy of Pakistan. You were comfortable with this job, and showed a great deal of responsibility in it. At the same time, you met with and began dating a local girl. This annoyed your parents, as they had already begun to arrange a marriage for you.

Not too long afterward, you were promoted within the embassy, and you were then given the responsibility over minor contacts with Pakistani functionaries and government, as well as the issuing of entrance documents. After your promotion, you marry the girl you had been dating, despite massive protests from your family.

After a second promotion you were overseeing the issuing of entrance documents to India, and in control of the small staff of which you were formerly a member. You showed responsibility and skill in this position. Four years later you were moved to the translation services because no one else was either available or capable for the position. You received a slight increase in pay, for the extreme stress of the job. Here you finally begin to flourish as your skill in languages is once again serving you very well. You are selected as a negotiator in a trade agreement with China because everyone else is busy. You deal with this most effectively and you are eventually recognized in your own right as a diplomat. You become a full member of the diplomatic corps, and are selected for the Nuclear Peace conference.

Views:

You are relatively patient with negotiations, and your thoughts will frequently turn to your family. Protecting them is a priority. You can see the balance between threats and warfare, though. You understand how deterrents such as nuclear capability and a large standing armed force are your nation's main method of survival in the often-tense atmosphere of the East. You will remain calm, almost phlegmatic, in many cases. You know that threats and other gyrations are standard tools at the table, and that angering one of the other powerful nations can only harm your family.

Orders:

You have been ordered by your government to do all within reason to reduce the tensions between Pakistan and India, and reduce the potential of warfare. India cannot afford to go to war, be it nuclear or conventional, nor can it afford to back away directly.

Goals: You wish to fulfill your orders as swiftly as possible, only wishing to return 'home' to your wife and children, hopefully with a promotion.

A1.9 Pakistan / Khan

Ali Khan (42)

Pakistani Diplomat: Semi professional

1958 - You are born in a small suburb of Karach to fairly wealthy parents.

1976 - You graduate near the top of your class and enter Pakistan's largest college

1980 - You join the diplomatic Corps of the Pakistani military

1982 - You are promoted within the embassy and are now in contact with functionaries from India

1986 - You marry a local Muslim girl, who begins to work towards Pakistani citizenship.

1987 - Your wife gives birth to a son.

1988 - Promoted once again, during the transition from a military government

1990 - Your second child is born, a daughter.

1992 - No one else capable being available, you are moved to translation services, with a slight increase in pay, for the extreme stress of the job.

1994 - Your wife gives birth to a second daughter.

1999 - In a pinch, you help with the negotiation of a cease-fire treaty with India

2001 - You are selected for the conference due to newfound negotiating and linguistic skills.

Description:

Your parents are affluent merchants, specialized in selling foods. Your childhood never really lacked for the material things, and you were rather popular among your fellows. The later unrest during the split from India meant little to your family, as people need to eat one way or the other regardless of circumstance. After graduating from public school with honors, excelling in foreign languages, you chose to enter Pakistan's most famous college. You primary areas of study were politics and languages. Once out of college, you join the Diplomatic Corp of the military and are given responsibility over minor contacts with India's functionaries and government, as well as the issuing of entrance documents. At the same time, you begin to see a local girl; having been rather unhappy with your family's arranged marriage.

During Pakistan's move from a wholly military government, you are promoted and begin overseeing the issuing of entrance documents to Pakistan, as well as being in control of the small staff of which you were once a member of. Several years later, you are moved to the position of chief translator, because all other potential translators are unable to fill the position. Your pay is increased due to the stress of the job.

Nearly seven years later, due to problems during a cease-fire negotiation, you are placed in the middle of negotiating with representatives from India. Through both skill and luck during this high-pressure incident, you are recognized in your own right as a diplomat. You are promoted to full membership in the diplomatic corps.

Views:

You are mild in manner since, after all, anger and flair have never particularly served you in the past when dealing with people, and there is no reason to suppose that this might change any time in the near future.

Goals:

You hope to fulfill your orders as swiftly as possible, only wishing to return 'home' to your wife and children, hopefully with a promotion. As such, you will be relatively eager to reach a compromise; your first order of business always being the protection of those you care for.

Orders:

You have been ordered by your government to do all within reason to reduce the tensions between Pakistan and India, and reduce the potential of warfare. Pakistan cannot afford to go to war, be it nuclear or conventional, nor can it afford to back away directly.

A1.10 England / McDowel

Patrick/Patty McDowel (40)

Scientific advisor to the English delegation

History:

1961 - Born in Northern Ireland to a poor family, Greg and Marry McDowel

1963 - Family is killed in an automobile accident. As the only survivor with no known relations, she is sent to Belfast as a ward of the state.

1965 - Adopted by Laura and Roger Downing, lower middle class family. Adoptive family moves to London.

1968 - Sent to Elizabeth Memorial school for education, with government aid to help pay tuition. Meets a pair of rich friends, Jill Edmonds and Betty Jesserit.

1970 - Taken out of Elizabeth Memorial school, put into regular school. Parents no longer able to pay for private school. To her surprise, Jill and Betty remain her steadfast friends.

1977 - Graduated school two years early, with the top grades in her class. You were offered a full scholarship at nearly any college you chose. You attended Cambridge for a degree in physics. Maintains her friendship with both Jill and Betty despite college work.

1982 - You received a physics degree from Cambridge, and continued as an assistant professor to earn your Doctorate.

1992 - Hired as a full time professor at Cambridge. Occasionally does consulting work for Jill.

Description:

You have always been a quiet and introverted girl. When you were just starting to make close friends at the orphanage, you were adopted. After being adopted by the Downings, you didn't speak much for nearly a month. They cared for you and loved you like any parents would, but it made little difference. When Mr. Downing received a job offer from a London based stock trading company; they debated giving up on you. Unbeknownst to them, you were listening in on the conversation. When they decided

that they would keep you no matter the consequences, you resolved to make an effort to treat them like family.

Once your new family had arrived in London, they decided to send their daughter to the best school that they could afford. They sent her to Elizabeth Memorial, but kept her at home rather than sending her to live there. You walked to school every day, but you were happy to be going to such a nice school. At that school, you became very close friends with Jill Edmonds and Betty Jesserit. Unfortunately, a drop in the English stock market caused your father to lose his job and your family was force to remove you from private school. It amazed you that both Jill and Betty remained your close friends, and you determined that you would never leave them as long as they did not leave you.

Once at college, you maintained your connections with your friends still in their junior and senior years at Elizabeth Memorial. When Betty graduated and moved back to Wales, they all promised to keep in touch. But then when Jill graduated and went off to France, you suddenly felt more alone than you had since the orphanage. You still had your adopted family, but they were having enough problems just making ends meet. So you buried yourself in your work, trying to learn everything there is to learn about Physics. You became the shining star of Cambridge for two years, making every honor role and getting recommendations from every teacher on campus, even though you were a woman. (If a man plays the role, disregard the caveat in the previous sentence). Finally, you graduated, but that didn't even slow you down. You went on to graduate work, announcing your intention to get a Doctorate in physics.

When your friends came back to London the next year, you once again felt like a person. While you still intended to get your Doctorate, you did keep to a sane and steady pace. You became a well-known physicist, publicizing your own works and doing research for Cambridge. You are now one of the most respected professors at Cambridge.

Views:

Your friends are your lifelines. Without them, the world really wouldn't be worth living in. You must keep them safe, and if that means attending a pointless conference filled with stodgy politicians, so be it.

Goals:

Jill says that there might be a nuclear war if these politicians don't agree to sign a treaty. You know the facts; you've memorized all the relevant data. Nuclear war is a stupid proposition, where everyone loses, including the ones who launched the weapons in the first place. You'll just have to convince them. Still, you should probably let Jill do the talking.

Orders:

Who do you think I am? Some kind of military drone? I don't follow anybody's orders but my own, thank you very much!

Costume ideas: Casual formal dress.

A1.11 America / Garen

Stanley/ Janet Garen (53 years old)

American Technical Advisor

You were born in 1948, in Greenwich, Connecticut to middle class parents, one younger sister.

1956 - You were accepted at MIT where you pursued a Physics major, and received a 3.5 GPA.

1960 - You went on to Cal Tech as a Masters Student in their Nuclear Engineering program.

1962 - Worked in projects involving nuclear generator construction.

1967 - You accepted a position as chief safety inspector at a major nuclear power plant which had recently been completed.

1971 - You married a girl you'd known since college. You and she were 23 at the time. In the years that followed, you had 3 children.

1978 - Move to a job in the DOE

1984 - Promoted to position within the DOE which allows you to assist in the allocation of research funds

1989 - You received a promotion to help review nuclear weapons testing research

1996-You were promoted once again, and now help to work out who gets what funds in the general category of nuclear power and nuclear research. You still hold this position.

1999-Your oldest Daughter just had her first child, making you a proud grandfather.

Description:

You grew up in Greenwich Connecticut, and attended a very good public high school. Your father was a physicist associated with the Manhattan project and research that followed its completion. You took after him in many ways, unlike your younger sister. After having a relatively quiet childhood, you were accepted to MIT and enjoyed the academic atmosphere. However, you didn't feel that a Ph.D. in physics followed by years of lab work was what you wanted to do. Instead you went to Cal Tech. Having received your masters in Nuclear Engineering, you began work on projects involving the

construction and design of nuclear power plants. You felt it was important to use nuclear power constructively, rather than for military applications (perhaps because of your father's legacy). You were a part of a group within the company which addressed optimization of the use of fuel rods, and you proved yourself very capable, hardworking, and intelligent to your peers and superiors.

After proving yourself to be an excellent inspector, you decided that you would like to be involved in actually writing the regulations which govern the operation maintenance and construction of nuclear plants. Being something of a perfectionist, you'd noticed a large number of imperfections and poor decisions in the regulations as they stood. You easily got a job at the Department of Energy, but temporarily had to settle for a salary cut. Through several years of effort, you managed to advance in the DOE into a position which involves deciding how research funds should be allocated. Although you weren't directly responsible for deciding who gets what funds, you were supposed to review various ongoing programs to make sure they were using funds efficiently. Since some of these programs were somewhat secret, you had to undergo a more detailed background check. Since your first employment in the nuclear industry, you have had a number of background checks run on you, but this search checked every speck of dust you'd encountered since kindergarten. To make the long story brief, you received the necessary clearance but you considered it a major hassle.

Views:

You are a geek, but you can act businesslike when you have to. Technical problems are much more interesting to you than politics. In addition to an interest in science, you are also an Engineer to the bone. This makes you practical to a fault. Your motto is "keep it simple, stupid."

You don't think the current or past generations of missile defense system designs would work. You believe the United States may have a greater capability to design the yield of a nuclear weapon and to vary the relative amount of energy released as heat, radiation, and blast than publicly acknowledged. You are somewhat pessimistic about

the outcome of this meeting, but you hope things will change anyway. You have never understood American's attitudes towards nuclear power, and consider the common overwhelming negative reaction the result of a failure to understand how safe and clean nuclear power really is.

Goals:

You plan to retire in a few years, but plan to continue to work as a consultant part-time. You'd like to see this conference succeed, but you feel your job is to provide technical information and not to be a diplomat.

Orders:

You have been asked to advise Geoff Hedge on technical matters concerning nuclear weapons and science in general. You have never met Mr. Hedge, but you spoke with him very briefly on the telephone.

Costume suggestions: Oxford shirt and khaki's, but no tie. Wallet with baby pictures, calculator.

A1.12 Russia / Novikov

Isaac/ Catherine Novikov (51)

Russian Scientist

1950 - You were born in St. Petersburg Russia to parents who were both in the field of nuclear weapons research.

1964 - You graduated from high school at the age of 14, and you were accepted into the university of Moscow.

1967 - You received your degree in Nuclear Physics & Mathematics and immediately entered into graduate school in Leningrad

1972 - You completed your Ph.D. in nuclear physics by explaining a complicated decay of several rare radioactive isotopes, including isotopes produced in nuclear weapon reactions.

1973 - You accepted a post-doctorate position with the government research laboratories. You proceeded to do advanced nuclear weapons research

1975 - You accept a position as a full-time professor at your graduate school

1983 - You finish your first study of specific-radiation nuclear warheads, and begin a study on stealth bomber capabilities.

1989 - Conditions continue to worsen in Russia

1997 - You join an organization of Russian scientists who are trying to convince the Russian government that the way to revive Russia's economy is to increase government funding for research in science and technology. This organization wishes Russian science to re-enter its glory years.

2001 - You are joining the Russian Delegation at the request of your government, to inform the delegation about technical and scientific matters. You agreed only after they tripled their initial pittance of a payment for working as a consultant.

Description:

After a very bright and promising childhood followed by several years of higher level academic advance, you manage to receive a doctorate in Nuclear Physics by the incredibly young age of 22. You accepted a position as a professor and continued your

research in the physics of nuclear weapons. This included research on making nuclear weapons that generate blasts that are primarily radiation, kinetic blast, fast neutrons, etc in preference to the other kinds of things that can be generated by a nuclear weapon. Finally finished, you submitted your research on an almost-only-kinetic blast and heat nuclear warhead to the appropriate bureau and began research on ways to counteract the star wars program proposed by the United States.

However, the USSR was deeply concerned by the stealth aircraft and proposed laser defense systems of the Reagan administration. They didn't feel they had the resources to deal with the star wars technology. Your job was to determine the capabilities of such a system. Your report, once finished, suggested that the Americans could indeed create a screen against ICBM's by neutralizing as many missiles from the "edge" of Russia as possible. Then they would deal with those missiles that became orbital through a combination of precision-aimed X-ray lasers and supercomputers (which assumed that America would continue to outpace Russia in computer technology at the current rate). This argument was predicated on a first strike by America, but it appeared as if America, armed with star wars, could nuke Russia with minimal losses. The cost to develop such a system would be enormous, but your study suggested that it was technically feasible for America to accomplish.

As Russia begins to fall apart, funding for research in science (and research in everything else) begins to go away fast. In the years that passed, you were almost never paid for the work you were "supposed" to be doing. You continue out of intellectual interest and a feeling of patriotism. Numerous clandestine offers are made to sell your professional skills to a foreign power, buy you refuse despite the fact you feel you are all but starving to death as a scientist in Russia. Independently, you've continued to investigate the problem of anti-star wars technology. You discovered a number of cheap ways to divert anti-missile lasers and other anti-missile technologies. You consider your earlier report paranoid and motivated by gross over-estimation of the American scientific and industrial capacity.

Views:

You are distant, brilliant, and somewhat egotistical. You are a bit absent-minded when it comes to small details like where you left your keys, but you aren't a buffoon. You consider the Russian government corrupt and the Russian nation doomed to slow and complete decay. You feel that the United States can't exist long without an enemy, and you don't trust the intentions of the USA. You no longer believe star wars is technically feasible.

Goals:

You'd like to see Russia become advanced technologically and scientifically again, but you don't consider it likely. You've finally given up hope in Russia and you're looking for a new patron nation to move to and research for, provided they aren't going to destroy the world. You wouldn't consider working for any predominantly Arab country, because of the common false assumption that all Arab countries harbor terrorists.

Orders:

You were paid to provide technical advice on this conference and you have enough professionalism to do so. Beyond that, you aren't beholden to anyone as far as you are concerned.

Costume: lab coat, jeans, casual clothing

A1.13 China / Tang

Tang Lu (42)

Military advisor

1959 - You were born to a collective farmer along the Yangtze River

1980 - You leave the farm to join the PLA as a private

1982 - Having been promoted to lieutenant for general merit, you are now accepted for officer training

1983 - You are given a minor commission in an outlying district.

1985 - You are promoted through tenure, to leadership of a brigade in Beijing.

1989 - You obey the orders to use any means needed to break up the demonstrators in Teinamen square

1993 - You take part in choosing locations for nuclear silos

1994 - After exhaustive testing, you are given further security clearance into China's nuclear programs.

1995 - You lobby for a Chinese space program

1999 - You become well known for your support of the space program

2001 - You are selected for the conference by the commander of the PLA.

Description:

You led a relatively impoverished childhood, as the son of a simple Chinese farmer. Still, you showed a marked tendency towards leadership during your schooling years, and were often placed in charge over younger children in your adolescence. Once you reach the minimum age to enlist, you do so and immediately attempt to enter officers training. Failing that, you enlisted as a private. It was not long before you were promoted to the rank of lieutenant on general merit, and once again requested officer training. This time, you were accepted and given a commission.

After several years of impeccable service, you are promoted through tenure and given commission of a new brigade in Beijing. Things are quiet for a while, until the incident at Teinamen Square, where you followed orders by leading a small squad

through the massacre. Due to the international outcry and despite your willingness to obey orders, you are transferred out of active service to a desk job where you assist the commander of the People's Liberation Army.

You are placed in contact with nuclear strategy for the first time when you are present as a trusted, secure assistant during a meeting planning the location of a few new silos for the PLA. A handful of well-placed comments added a great deal of respect from your higher ups that day. You also end up suggesting that China attempt to obtain commercial orbit capable rocketry, realizing that it can be adapted into ballistic weaponry.

With the basic success of the program initiated with these recommendations, you found yourself enjoying minor prestige within the command structure of the PLA. This new authority is why you were chosen for this arms conference.

Views:

You are a soldier and a leader, not a diplomat. You are unused to the negotiating table, and you will bring a forceful personality and the tendency to give orders to these negotiations. (You may tend to use the phrase 'Herding cats.')

Orders:

Protect China's nuclear stockpile. Sacrifice older model warheads as needed to ensure that sufficient strike capacity remains to destroy any one nation without major missile improvements. Do all in your power to force other nations to sign a treaty disallowing nuclear defense. The only nation in a position to erect one is a potential enemy. Keep China from having to sacrifice the ability to test arms. Don't declare war just yet.

Goals:

Like all weapons, nuclear weapons are a means to an end. Power. This power is to be protected, and if it must be taken from China, see to it that it is taken from all,

especially the Yankees. Otherwise, you are simply out to protect your own position, which means following orders to the letter.

A1.14 South Africa / Stackawicz

Professor Jeff/Barbara Van Stackawicz (33)

Economic and technical advisor for the South African delegation

History:

1968 - Born to a rich South African family, one brother

1979 - Sent to a private school in the United States to avoid the growing unrest in South Africa

1986 - Graduated from high school in the top ten percent of your class. Decided to continue your education in America and went to Rensselaer Polytechnic Institute for a double major in business and nuclear engineering.

1991 - Graduated from RPI with a dual major and was immediately hired by the South African Atomic Energy Corporation.

1995 - Promoted to assistant head manager of the AECSA (Atomic Energy Corporation, South African, Ltd.) public interests department.

1997 - Recognized as AECSA employee of the year for your work in diverting public attention away from allegations of misconduct with regards to illicit Uranium smuggling

2000 - South African Atomic Energy Corporation changes its name to South African Nuclear Energy Corporation, and is declared property of the State. Business continues as normal.

2001 - Promoted to head liaison to the government.

Description:

You are neither politically inclined nor are you particularly interested in fame. However, you do have a knack for back room dealings and spin doctoring that would make some American politicians think twice before taking you on. While you don't have the real political background that most of the other delegates have, that doesn't stop you from doing what you came to the conference to do. In fact, nothing has really been able to deter you from what you want since you were born. Just be a bit subtle, witty, and ready to stab the other guy in the back and you can accomplish anything.

Views:

You see yourself as a force of nature: ruthless, unstoppable and completely without morals. The truth of the matter is that you do have a conscience, it's just a bit underdeveloped. You won't start a nuclear war, and you certainly won't kill for what you want, but you have no problems with lying, stealing and blackmail.

Goals:

Cash. Cold hard cash. You know exactly how to get it too. The NECSA has a lot of Uranium lying around, quite a bit more than has been reported. If you can find a buyer at this conference, then you get a commission. The commission is a small percentage, but then again, a small percentage of a huge sum can be quite significant.

Orders:

Make sure that the conference does not adversely affect the Uranium trade. This means that if all nuclear weapons are banned (which will never happen) and nuclear power is stopped as well (even more unlikely), then the Uranium trade, along with 1/10th South Africa's GNP goes up in smoke. That can't be allowed to happen. If possible, nuclear power is to be promoted (and nuclear weapons as well, as long as they're not aimed at South Africa).

A1.15 Iran / Alshan

Note: All Iranian figures should be played as male, regardless of the sex of the player, due to the nature of the division of duties between the sexes in Islamic culture.

Mohammed Alshan (35)

Religious Attaché to Iranian delegation

1966 - Born in Tehran, the first son of your father's second wife

1984 - Graduates in the middle of his class, from a public secondary school.

1984 - Enter the army as a private, but are discharged due to a leg injury

1985 - Enters the University of Tehran, a theology major, graduates with honors in 1989.

1989 - Joins the ranks of the Shia priests.

1995 - Appointed Imam, or prayer leader, of a district in Tehran.

2001 - Sent to the delegation by the religious overseers of Iran, hoping to keep the secular diplomat from 'giving away the fort' so to speak.

Description:

You have few memories of your early life under the shah. You were the first son of your father's second wife, however, which means that you were given some small recognition by your family. You attend both public school and college, doing fairly well in both. Your extremely brief stint in the military, before college, led you to believe that a higher fate awaited you. Your primary study in college was religion, and after graduating you went to continue your studies in the ranks of the Shia priesthood.

You became a devout follower of Islam, the sacred path. You believe that Western culture is suffocating in the dross of it's own decadence, and that they should remove their influence from the holy lands of the Middle East. However, you do not see the nuclear flame as the tool of choice because, after all, it was spawned by infidel scientist as a weapon of darkness. Thus, all nuclear weapons being dismantled would not be a terrible thing. But, if such an evil must exist, Iran must not be barred from having

those weapons, and the systems with which to deliver it. There would be no more just of an irony than to strike down the Great Satan with a weapon forged in the flames of Hell.

While there is not a hierarchical organization quite like the Catholic Church among the Shia, you soon gather a good reputation as a public preacher, and as a strict interpreter of the rules of the Koran. They send you to be a prayer leader, and for several years your zeal becomes legendary. Your charisma and speaking skills bring out the more fervent side of the city, and your superiors look on with approval.

The conference is liable to be both a reward and an opportunity for you. If you are able to guide the head of the delegation to a satisfactory end, you will be raised high in the eyes of Allah.

Views:

Religious to a fault, you will not let Iran lose or falter in its quest to bring the light of Allah to the world, nor will you allow this to be prevented by another nation. Your zealous nature, combined with your charisma, will make him a dangerous foe indeed for the enemies of his Lord.

Goals:

Optimally, you would see that Iran and other Islamic states are not barred the path to nuclear defense, while the Western states are. This being unlikely, you would see the shields barred to all, as Iran and it's allies do not have the resources to compete with the Western states in the development of the technology, a technology likely to be given to Israel.

Orders:

You are to restrain the diplomat from excessive compromise. He is used to the process of give and take, but there are some things that cannot be sold. You are also to keep Israel from being able to obtain nuclear weapons. We cannot tell if the unbelievers

would turn them against us, and even in jihad, the mass slaughter of the faithful must be prevented. May you walk the true path of Allah.

A1.16 France / Bedeau

Laurence/Laura Bedeau

Nominal leader of the French Delegation

History:

Born February 19, 1950

1960 - Began attending LeBeau Private School, an expensive and exclusive school for boys

1965 - Became captain of his school's fencing and equestrian societies.

1969 - Began attending Sorbonne University as a dual management and law major

1970 - Met two other underclassmen, Jean-Paul Curlay and Maurice Conté, for the first time, did not like either of them

1971 - Met Josephine LeBeau, a quiet, pretty freshman of good breeding.

1972 - Became engaged to Josephine LeBeau.

1974 - Graduated Sorbonne University at the head of his class.

1975 - Hired as a political speechwriter. Also worked as a secretary to several politicians

1976 - Married Josephine LeBeau Bedeau, had first child (girl) seven month later.

1978 - Moved to a position as Senior Mayoral Assistant in the city of Lorraine (France's second largest city)

1979 - Had second child (girl) early this year. Hopes for a male child soon.

1980 - Elected to a seat on the National assembly by a district of Lorraine. Continues in this position until the present day.

Description:

You are a true son of France. You are the descendant, although not directly, of several of the royal bloodlines of France. Your parents are wealthy, and you were thoroughly pampered during your young life. After growing up, you continued in this vein to become a power politician with ties and political connections throughout the French government, on both a local and national level. Your years as a speechwriter and bureaucrat also led to your being both an eloquent speaker and an effective diplomat.

Views:

You believe that France is the focal point of all of European history. France has been the seat of power for nearly every great empire since Rome. Its invasion started both World Wars, and it is now one of the biggest and most stable economic powerhouses in the world. Therefore, France is the chosen kingdom of God, and the decisions of the French government are to be protected in an almost religious manner.

Goals:

To place France in the number one position in every field of competition in the world, starting with nuclear power if possible.

Orders:

To judge whether nuclear testing and re-armament is necessary given the growing tensions between nations, and to avoid signing a nuclear disarmament treaty.

Costume ideas: As flamboyant and visible as possible

A1.17 France / Conté

Maurice/Monique Conté

Chief Military advisor to the head of the French Delegation

History:

1946 - Born to a middle class family living in Paris, your father was a Commander in the French Foreign Legion at the time of your birth.

1961 – You attempt to join the Foreign legion, but are prevented by your father, who soundly beats you for trying, especially at your young age

1964 - Leaves home for education at Sorbonne University, with both an academic and a sports scholarship to fund you

1962 - Decides on a degree in law, and pursues this course with fervor

1963 - Decides on a degree in mathematics, and pursues this course with fervor

1964 - Decides on a degree in philosophy, and pursues this course with fervor

1965 - Receives a degree in management, despite never having majored in the subject.

1966 - Is hired by the French Intelligence agency and put to work decrypting messages and studying foreign intelligence

1971 - Returns to Sorbonne for several semesters of more advanced math courses, while still working for the Intelligence office. Meets two other undergraduates at this time, named Laurence Bedeau and Jean-Paul Curlay

1975 - Is promoted to a higher position within French intelligence, and is now managing many other people who's job he was once doing

1981 - Is promoted to a position outside French intelligence and is given a higher clearance level and a job advising government officials based on French intelligence

1994 - Is promoted to be the assistant vice-secretary of the Minister of defense, advising his primary advisors on what other countries are doing.

Description:

You have always been a bit quieter and more introspective than most other people. You will occasionally sit for hours on end thinking your own private thoughts and ignoring the world. However, this does not mean you don't care about what's going

on around you, just that you spends more time thinking about how things work than the next guy. Thus, you don't make a very good diplomat, and have only the basic interpersonal skills you were born with.

You also have access to French foreign intelligence. While that isn't very accurate, it still turns out to be useful on occasion. You will use this to the best of your abilities to accomplish your goals.

Views:

Everything can be accomplished through just a little bit of effort, if one knows where to apply the pressure. If it is done right, you can just sit back and enjoy the benefits of a moments work for the rest on you're life. Of course as far as you are concerned, you are the real leader of the delegation, and with your little pushes in the right direction, you will lead them into exactly the situation you feels is appropriate for France.

Goals:

If we can simply convince the other countries that we have no intention of re-arming, they'll leave France alone. This does not mean disarmament, nor does it mean we have to stop testing nuclear devices. We must simply do it quietly, so the other countries can't prove anything. A more advanced nuclear arsenal would surely be beneficial to France, after all.

Costume ideas: Something simple that won't draw attention

A1.18 Japan / Kusangi

(Family name first, given name second).

Kusangi Fumiko (59)

Japanese Career Diplomat and head of delegation

1942 - You were born shortly before Japan went to war with the United States.

1960 - You graduated from high school with exceptional test scores and were accepted at Tokyo University

1965 - You received high honors when graduating from Tokyo University and received a job in the Japanese Government

1968 - You married a diplomat's daughter.

1973 - You became the chief aide for your father-in-law, following the retirement of his former aide. His former aide retired into a cushy position in industry.

1977 - Your father-in-law has arranged for you to become a diplomat to Jordan. Your job is to not offend anyone.

1985 - You became an assistant diplomat in certain important trade talks.

1995 - You have become one of Japan's most influential diplomats and are often in important negotiations

Description:

You were orphaned by the war and were raised by your father's older brother. He had a position translating for the provisional government of Japan before autonomy was restored. You worked hard in school, because you knew it was necessary in order to get into a good college. You managed to get into Tokyo University, which are the most prestigious universities in Japan. You majored in political science, and unlike many of your peers, earned a master's degree immediately after you completed your bachelors. After graduating, you were offered many interesting opportunities. You accepted a position in the Japanese Government as part of a diplomat's staff. You received a number of promotions as you grew older, and the promotions you received tended to place you in more influential positions rather than just being promotions in name only.

Your marriage was arranged with the youngest daughter of the diplomat for whom you work. You were also adopted into your father-in-law's family, as this is a relatively common practice in certain cases. Over the next few years, you and your wife came to have genuine love and affection for each other, but both of you are always very proper in public. This marriage essentially proved you were going places, and you redoubled your efforts at the office.

Having handled your past positions well, you became an assistant diplomat involved with trade talks with foreign nations. Although your official rank may have apparently decreased, this was still a promotion.

Only ten years later, you officially became one of Japan's senior diplomats and are even now involved in some of Japan's most important negotiations. You have recently received renewed offers of jobs in the civilian community from companies effected by international policy issues. You are confident it would be a comfortable retirement.

Personality:

You expect respect from those younger than yourself, you keep your feelings to yourself, and you actively work to stress points of agreement. Additionally, you convey a sense of wisdom. You are not only in control of yourself, you seem to completely understand the situation. (Even if you don't). Also, you always try to maintain an objective outlook on things, but you have learned better than to turn your back on the Chinese government.

Goals:

You genuinely desire Japan to be viewed well in international circles, as a point of personal pride. You hope to be a neutral and calming influence on the conference, but you trust the Chinese delegation as far as you can throw them. You want to further the cause of peace in the world, so that the world is safe for your children to grow up in.

Although you don't like China, you would never want to let this show. Open displays of emotion (especially negative emotion like the distaste you feel for them) are barbaric.

Orders:

You have been told to support Taiwan, because it is an ally against China. You are supposed to facilitate disarmament and peace via an enforced treaty.

Costume ideas: power suit

A2. List of All Roles

These are all roles available in the Dewhirst et al. paper.

1	Swiss moderator
2	English Diplomat
3	American Diplomat
4	Russian Diplomat
5	Chinese Diplomat
6	Taiwanese Diplomat
7	Iranian Diplomat
8	Israeli Diplomat
9	Indian Diplomat
10	Pakistani Diplomat
11	English Scientist
12	American Scientist
13	Russian Scientist
14	Chinese Military advisor
15	South African Economic/Corporate
16	Iranian Preacher
17	French Diplomat
18	French Military
19	Japanese Diplomat
20	Pakistani Military Advisor
21	South African Diplomat
22	Japanese Scientist
23	American ex-Military advisor
24	Russian Military
25	Israeli Intelligence
26	English aide and advisor
27	Iranian Military

28 Indian Technical

29 Egyptian Diplomat

30 Taiwanese moneybags

31 Taiwanese Military Advisor

32 Indian Military Advisor

33 Chinese Technical Advisor

34 Japanese Intelligence

35 French Intelligence

36 Egyptian Author

37 Pakistani Technician

38 Israeli Technician

39 South African Political Advisor

40 Egyptian junior Diplomat

A3. Briefing Packet Example

This is an example of the entire packet of materials that a student at the NCSSSMST conference would have received to play the Nuclear Proliferation Game. For the complete materials for all players, please see the Dewhirst et al. paper.

A3.1 Russia / Krusburg

A3.1.1 The Plot

The Plot:

New York Times

India's New Toy

January 14, 20--

India rocked the world today when they announced the underground testing of a hydrogen bomb in their Pokhran Special Weapons testing facility. Although this is not a new technology, it is a very advanced and dangerous weapon, and current tensions with Pakistan make its very existence in India a threat to world security. While they have no new comments on the topic of war with Pakistan, they continue to say that they "will never lose another war to Pakistan again, no matter the cost."

The Pakistani ambassador had this to say...

Newsweek

Pakistan performs marvel of engineering, at India's expense

February 26, 20--

As of yesterday, the Pakistani have accomplished a completely new and unique feat of engineering. The project, termed Mission Watershed, was to deliver more water to a small village on the border of India and Pakistan by diverting a small river. The real marvel comes from how they accomplished this. A small, truck-portable nuclear device

was used at a strategic location along the river's course. Russia tried to perform similar feats of engineering years earlier, but managed only to create unusable water as a result of radiation.

The bomb was designed to produce a nearly clean explosion, with as little residual radiation as possible. The project's prime benefactor, a wealthy Pakistani businessman, commented saying, "It has been my desire all along to help the less fortunate people of my country. While it may not seem a worthwhile investment now to assist this small and impoverished village, this new inflow of water will allow the farming industry in that area to flourish." When asked about the impact on India, he replied that, "My environmental experts assure me that the impact on the environment will be inconsequential, and that no harm will come to India's ecosystem."

India, of course, refutes this statement vehemently and is currently talking the United Nations council about reimbursement...

CNN
China finds new Allies in the Muslim Bloc
March 16, 20--

"And in other news, the Republic of China has opened negotiations with Iran to sell them one of their old nuclear reactors. While this has been in the works for several months, the actual opening of the talks have created an uproar throughout it's surrounding nations. Most prominently, Israel has submitted a formal protest to the United Nations Security Council to prevent Iran from getting their hands on fissionable materials. Rumors persist that China will veto any such motion of censure. And in other news..."

London Post
Russia sells Military Advisors to Taiwan
March 21, 20--

The former USSR has agreed to a deal in which nearly one hundred of their most famous, experienced, and capable Spetsnaz officers and troops are sent off to Taiwan to train, educate, and advise the Taiwanese national guard under the new Taiwanese nationalist movement along with other Russian advisors. China's official position on Taiwan holds that it is rightfully a part of China. China, of course, is furious with their former allies, however can do nothing directly without losing the extremely profitable and delicate Taiwan or risking conflict with the United States.

The Taiwanese nationals claim to have no wish for military conflict with China, noting the comparative difference in size and size of armed forces (Taiwan has a standing army of less than 10,000 people). Rumors have been flying that Russia sold more than advisors to China. Certain factions wonder at Taiwan's need for military force.

The Russian president commented on this saying, "This is of course merely a rumor..."

Washington Post
Star Wars is Reborn, Says US Government
March 23, 20--

The president has issued a bill to Congress today in response to the growing nuclear tensions around the world. The bill is in support of a new Star Wars like program to create a more effective defense against nuclear weapons. The United Nations, however, is claiming that this is a violation of the spirit of the START II treaty, signed by the United States governing nuclear disarmament. Although the president himself refused to comment, the cabinet was out in force defending his position as one of needed defense in times of growing hostility and tension. Similarly, members of the private sector have donated large sums of money to the development of nuclear defense systems. The growing public support of this position also strengthens the government's resolve.

England's Prime Minister has sent a formal letter to the president beseeching him to change his position...

CNN

New deposits of Uranium Found

March 25, 20--

"The nation of South Africa has announced today that a new deposit of Uranium has been found in the Orange Free State, the central area in that country. Already the third largest source of Uranium in the world, (outside of the United States and Russia) South Africa may well become the largest source of fissionable materials in the world. They have also announced that they will be looking for markets for this new wealth of mineral in the near future..."

London Post

France breaks treaty with nuclear test

March 26, 20--

France has angered the signatories of the Comprehensive Test Ban Treaty (CTBT) today by doing aboveground testing of nuclear weapons on its old Fangataufa Island test site. France is one of only a few nations not to sign this international agreement to not conduct aboveground nuclear tests. While this is not a formal act of war, it does mean that there is no binding force preventing another nuclear arms race like the Cold War. The Prime Minister has announced his intentions to do everything in his power to bring peace to the growing atmosphere of distrust and tension...

CNN

England announces nuclear peace talks

March 28, 20--

England has announced that it will be holding Peace Talks in Switzerland to discuss the growing nuclear tensions that are engulfing the world. The following countries have agreed to join the talks:

India, Pakistan, China, Russia, Iran, Israel, Taiwan, America, South Africa, France, and Egypt, Japan, and England are hoping to act as moderators along with Switzerland.

The talks will take place in April and will meet over the course of several days...

A3.1.2 Character Sheet

Note: This information is duplicated from appendix A1.3, which starts on page 43.

Peter/ Natasha Krusburg (41)

Russian Diplomat, and head of delegation

1960 - You were born outside of Moscow to a father in the Communist party

1978 - Finished high school and entered the University of St. Peter

1982 - Found a job at the Bureau of Foreign Affairs

1989 - Period of political upset in Russia, you managed to rise while others fell from grace

1998 - Your friend assists you in some political dealings, leading to your selection for the conference

2001 - Your diplomatic position has required you to do another job, this time without the luxury of a large bribe to grease palms.

Description:

Because your father was a politician in the Communist Party, you received a good education and never had to worry about there being enough food on the table. You finished your high school education and were accepted to the University of St. Petersburg. There, you studied political science and some history.

After you got a job in the Bureau of Foreign Affairs, you quickly moved up in the ranks thanks to blackmailing your superiors. You used the funds you gained by these means to ingratiate yourself to the real movers and shakers in the USSR, which probably prevented those you were blackmailing from getting rid of you. Most of your influential "friends" didn't stay influential after all of the political upsets, but some did. You rose to a comfortable position and continued to build personal political support within the new Russia. A friend of yours decided to see to it that you received a diplomatic assignment, and you managed to convince the two parties involved in the discussions to agree to a compromise thanks to your charms. The money passed underneath the table didn't hurt matters either. You knew better than to question where your friend got money for bribes of that size. Despite his lack of a visible source of income or official government position, he still handed you a tidy sum to hand over to each of the negotiators of the disputing factions. You made sure he gave you a generous tip... not a tip he knew about, but you're sure he meant for you to skim some off the top.

Personality:

You give the impression that you are very friendly and charming, but sometimes-perceptive people notice you're a little slimy. Pretend to be a used car salesman, but a little more subtle and quiet.

You don't think you are corrupt, nor do you think that taking advantage of every weakness you can find is wrong. You don't believe that anyone else is any more honest than you are, which is something of a corollary to the previous statement. You don't believe the situation at this conference will actually result in nuclear war if it happens to fail, as you don't believe nuclear war to be in anyone's vested interest.

Goals:

You wish to advance your own political career and look good back home.

Orders:

You were told to ensure that the conference concludes in Russia's favor, but you haven't been given the official authority to ensure a treaty ratified at this conference will receive the blessing of those back home. You hope to schmoose this past anyone who objects, either inside or outside of your government.

You have requested and received a military and scientific advisor, as you wanted to know exactly what is in Russia's best interest before you started to work for it. You'll take credit for what they say of course.

Costume: blue jeans and a polo shirt, to look American and cool.

A3.1.3 Country Background

The Russian Federation

The Russian Federation has a population of 146 million and a population density of 22 people per square mile. Russia is the largest country in the world. 82% of the citizens of Russia are Russian, 4% are Tartar, and the rest are of various ethnic backgrounds thanks to multiple relocations and numerous migrations. The two most widely practiced religions are Russian Orthodox Christianity and Islam. The Government is a Federal Republic led by Vladamir Putin.

Russia spends 5.8% of its GDP on defense. With a GDP of 620 billion dollars, its citizens have a Per capita GDP of 4,200 dollars. This is a fraction of the GDP of the United States, indicating that Russia is one of the less economically well off nations. Major trade partners include Germany, the United States, and China. The life expectancy of a Russian man is 59 years, and the life expectancy of a woman is 72 years. The birth rate is 0.964%, and the death rate is 1.496%. This makes Russia one of the few European countries where the death rate outpaces the birth rate. Education is mandatory between the ages of 7 and 17 and Russia has a 99% literacy rate.

In the 19th century, Russia expanded eastwards, until it hit the Pacific. In 1905, Russia's pacific fleet was defeated soundly by Japan. This was a rather embarrassing defeat for Russia, but the government survived a negotiated peace. WWI ended economic progress and Russia sent 2 large armies against 1 German army in the opening days of WWI. Reinforcing that Army cost the Germans and stopped any chance of success on the western front, but the Germans held the Russians for 2 years. Then the Germans sent Lenin "home," releasing him from prison to do so. Soon, the troops were going home and the provisional government in Russia was threatened. Russia took very heavy casualties and its men were poorly equipped. This led to revolt. In 1917, the revolution began with strikes by workers. A democratic provisional government was put in place after the Czar was deposed, but Russia had yet to withdraw from the war. Communists led by Lenin overthrew this provisional government. Lenin arranged for peace with Germany in exchange for a portion of the western territories. Following Lenin's death, Stalin took power in 1924. Trotsky was supposed to be Lenin's successor, but Stalin had the backing of the army. Many years later Trotsky was murdered in Mexico. Stalin's purges of political rivals began shortly after he came to power. Stalin's army support was ironic, as some of his earliest purges were within the army. These early purges of experienced officers cost Russia when war with Germany finally came about. In 1939, Russia and Germany signed a non-aggression treaty. Stalin didn't trust Hitler any further than he could throw a boulder, but Stalin was caught unprepared and went into hiding for 2 years, initially offering little direction. In 1941, Germany attacked Russia. Russia moved its factories out before the German troops moved in. As a result of errors that were Hitler's personal decisions, the Russian winter, and the mud that followed, the German army was unable to subdue Russia. The USSR sent 10,000,000 men against the Germans, tying up many German troops and adding another front to the war. The Kazaks and Turks that Russia sent to face Japan in China turned the tide on that front. Following WWII, the United States and the Soviet Union eyed each other cautiously. The United States feared Russia intended to invade the rest of Europe, and the USSR soon had nuclear weapons of its own. The next 50 years were of course the Cold War.

In 1953, Kruschev became Party Chairman and also assumed control of the USSR. Kruschev was anything but a fan of Stalin, and began a process of de-Stalinization. This involved correcting mistruths spread during Stalin's administration, destruction of posters and statues of Stalin, renaming things named after Stalin something else, and so on. On becoming President, Kennedy found that the Eisenhower administration was planning to invade Cuba using Cuban refugees as shock troops. He pulled back from the overt intervention and moved the invasion site, support and other arrangements trying to mask US involvement. As a result, the invasion failed and the survivors of the Bay of Pigs were captured a rather than being able to escape into the interior and start guerilla activities. Castro turned to the USSR to protect Cuba from a second more serious attempt at invasion. The USSR responded by providing nuclear missiles. The Cuban missile crisis came about when the United States discovered the USSR was trying to place missile silos in Cuba, which would allow the USSR to bomb Washington in a manner of minutes. The United States had missiles in Turkey which were already as threatening to Moscow as the Cuban missiles would be to the United States, but the United States didn't feel the situation was balanced. Kruschev was hoping that both sides could withdraw their missiles after he matched the US by placing missiles in Cuba, and was guaranteed that Cuba would be left alone. Kruschev was under pressure from hard-liners in the Communist party to be tough with the west. In return for Russia not placing missiles in Cuba, the United States agreed to remove the Turkish missiles. The United States removed the missiles from Turkey and replaced them with better missiles, after allowing the Russians to save face and avoid nuclear war.

In 1964, Brezhnev replaced Kruschev. During the 60's and 70's, the USSR and China extended massive amounts of aid to North Vietnam. The United States felt it "got back at" the USSR by arming and training Afghanistan rebels when they attempted to drive out the Soviet troops propping up a puppet regime of the USSR in 1979. In 1988, Soviet troops were withdrawn from Afghanistan, ending a brutal and bloody conflict. The rebels trained by the CIA didn't necessarily like America. Terrorist groups in Afghanistan which are opposed to the United States are able to draw on the same resources that the United States provided them with.

After Brezhnev, the leaders chosen for the USSR kept dying of old age after short periods of time in office. Older leaders were chosen because they held more conservative views. Eventually, they appointed Gorbachev, who was much more liberal. He held summit meetings with President Reagan, helping to relax tensions. In 1987, A number of peace treaties were signed with the United States. At home, he attempted to expand freedoms and cause the government to become more democratic. He also wished to bring about economic reform. This was Glasnost (openness) and Perestroika (restructuring). Many of the more conservative Communists opposed these changes, leading to an attempted Coup in 1991. Then Mayor of Moscow (later President) Yeltsin opposed the coup, and saved the captured Gorbachev, who was restored to power, but still he and Yeltsin clashed. Gorbachev remained a Communist in a nation where the party was discredited, and tried to go slow on economic reform. Yeltsin wanted to see a capitalist democracy established and rejoin the western world. Gorbachev was in control of the Soviet Union, a multi-state nation, and the leaders of several states wanted to get rid of him. Yeltsin was now President of Russia, so he proposed the dissolution of the Soviet Union in favor of a Confederation of Independent States. This left him in charge of the largest chunk of the former Soviet Union. While portions of this Confederation still work together and negotiate as a diplomatic bloc, Russia does more or less what it wants. In 1992, subsidies on goods were eliminated, causing prices to rise far above the ability of average citizens to pay. Under the old system, goods such as bread, cigarettes, and cabbage were priced artificially low. After restrictions were lifted, people charged as much as they could get for their goods. This was massively inflationary. In 1993, many of the state run industries were privatized. In 1995, troops were sent into Chechnya to prevent it from breaking away from the rest of Russia. Russia pulled its troops out two years later, only to send them back after several terrorist episodes and a threat to keep doing so until Chechnya was recognized. In 1998, Russia's economic problems grew worse, leading to a number of cabinet positions being re-arranged and officials resigning. This has been likened to re-arranging the deck chairs on the Titanic to try to prevent it from sinking. This eventually led to the resignation of president Yeltsin, in favor of ex-KGP leader Putin.

A3.1.4 General Country Information

Economic Summary

The following list summarizes the economic positions of the various nations in the game. GDP is the Gross Domestic Product, or a measure of the overall wealth of a country. The GDP/Capita is a measure of the average wealth per person for a country. Please not that this figure is an average, and the majority of people in a country will be earning either somewhat less, or somewhat more than this figure.

Countries:	GDP	GDP/Capita
China	4.8 Trillion	3,800
Egypt	200 Billion	3,000
France	1.3 Billion	23,300
India	1.8 Trillion	1,800
Iran	348 Billion	5,300
Israel	105 Billion	18,300
Japan	2.95 Trillion	23,400
Pakistan	282 Billion	2,000
Russia	620 Billion	4,200
South Africa	296 Billion	6,900
Taiwan	357 Billion	16,100
UK	1.3 Trillion	29,800
US	9.3 Trillion	33,900

International Tensions

The following is a chart of the relative tensions between various nations in the game. It is not exact, but is intended to provide direction where ambiguity may lie.

Tensions: The tensions of each country are on a scale of 1 to 5, with a 1 being peaceful alliance, and a 5 being a state of war. A country's tension towards itself is it's internal state of dissonance.

Tension Key:

1 - Peaceful Coexistence

2 - General Tolerance (Normal attitude)

3 - Dislike and Distrust

4 - Edge of War and Extreme Dislike

5 - Outright Warfare and Hatred

Name	China	Egypt	France	India	Iran	Israel	Japan	Pakistan
China	2	2	2	3	3	2	3	3
Egypt	2	1	2	2	2	3	2	2
France	2	2	3	2	2	2	2	2
India	3	2	2	2	2	2	3	4
Iran	2	1	2	2	2	4	2	1
Israel	2	2	2	2	4	1	2	3
Japan	3	2	2	2	2	2	1	2
Pakistan	3	2	2	4	1	3	2	2
Russia	3	2	2	2	2	2	3	2
S. Africa	2	2	2	2	2	2	2	2
Taiwan	3	2	2	2	2	2	2	2
UK	2	2	2	2	2	3	2	2
US	3	2	2	2	3	1	2	2

Name	Russia	S. Africa	Taiwan	UK	US
China	4	2	3	2	4
Egypt	2	2	2	2	2
France	3	2	2	4	3
India	2	2	2	3	2
Iran	2	2	2	2	3
Israel	2	2	2	3	1
Japan	2	2	2	2	2
Pakistan	2	2	2	2	3
Russia	3	2	1	3	3
S. Africa	2	3	2	2	2
Taiwan	1	2	2	2	1
UK	2	2	2	1	1
US	3	3	1	1	2

A3.1.5 Diplomat Briefing Material

Why other nations dislike SDI

In large part, the cold war was not so much about what one side or the other was doing, but what one side felt his adversary was doing. The entire notion of force as a deterrent is based on the premise that if one side were to attack, the other side would counter-attack so effectively that both sides would be annihilated. Whenever one side or the other threatened to outpace the other, or to gain a significant tactical advantage, their enemies became frightened and angry. This is the situation into which Strategic Defense falls. China, Russia, France and England dislike the idea, despite their disagreement on other topics. While the United States doesn't necessarily intend use it to attack Russia or China, it would allow the United States to do so with some level of impunity. After a working system is operational, it wouldn't be possible to counterattack an American nuclear attack. Consequently, the Soviet Union or China might reach the decision that to prevent the system from going operational they must launch an attack before it becomes operational. That didn't stop the United States from researching in that area, and it doesn't prohibit theatre level defense systems such as the one currently being developed by the United States.

One might ask how important a SDI system is against a smaller nuclear power. Presumably, the missiles of such a power would be easier to target. Unfortunately, countermeasures against SDI systems appear far less expensive than SDI or the nuclear weapons being protected. This of course assumes that the warheads are launched in a ballistic trajectory, rather than smuggled into a port or fired from the sea. Both of these delivery methods afford little or no opportunity to stop such an attack.

Other nations can't see SDI as a deterrent, as its mere existence is a threat. Their only alternative is to attempt to build SDI systems of their own to prevent American ICBM's from hitting. Unfortunately, SDI and even smaller theatre-defense systems are almost outside of the United States' technological and financial capabilities. China, which only maintains a few dozen missiles capable of striking the United States, is in no

position to develop such a system. Russia, which is having major problems creating a stable and productive economy out of a train wreck, is also in no position to be doing such research. England and France dislike the idea because it creates international tension. Additionally, there is no guarantee that the United States and Europe will always be allies. Three hundred years ago, nobody would have suspected that the major European powers would join together economically and militarily to try to stand up to the economies of America and Japan and the military might of Russia. The only conclusion that can be reached is, there are many good reasons for other countries to dislike the United States offering to protect the world from nuclear weapons, even if the United States feels it is only attempting to protect its citizens and allies.

Bilateral and International Treaties

Past treaties almost always have an impact on treaties that follow. There have been a number of treaties restricting nuclear weapons in some way, both bilateral and multilateral. Bilateral treaties exist between the United States and the Soviet Union, and have been adopted by the states that came into existence after the Soviet Union broke up.

The first major bilateral treaty was the result of the Strategic Arms Limitation Talks, also known as Salt I. Salt I was the result of negotiations from 1969 to 1972. The treaty was carefully phrased because the Soviet Union and the United States had different numbers and kinds of nuclear weapons.

Salt I was not a permanent treaty, so Salt II talks began in 1972 to create a more permanent weapons limitation agreement. As a result of various factors, this treaty was never signed, although negotiations continued through 1979. The Soviet Union agreed to abide by the unsigned treaty, but in the mid-80s this agreement fell through on both sides.

Start I was the first weapons reduction treaty. Start I established specific weapons reduction goals and categorized weapons separately. Start I also includes provisions for both sides to inspect the other to insure that weapons reduction goals are indeed being met. Satellite Soviet states agreed to abide by the treaty after the dissolution of the USSR. Start I also restricted the use of nuclear weapons systems designed to target incoming missile systems to two sites. Rules do not prohibit a laser based defense system, but the act of investigating missile defense that one's opponent can't also obtain is against the spirit of the Start I treaty.

The Russian Government ratified Start II in 2000. It calls for additional reduction of nuclear weapons, including the destruction of all multi-warhead intercontinental ballistic missiles. The reduction goals of Start II have yet to be met, and Start II must near completion before future arms limitation talks between the United States and the Soviet Union can take place.

The treaties just discussed are bilateral treaties between the United States and the countries that were once the Soviet Union. Multilateral treaties also exist that restrict nuclear weapons in various ways.

The Nuclear Nonproliferation Treaty prohibits the sale of nuclear weapons or explosives by the United States of America, the United Kingdom, France, China, and Russia to other nations that don't possess nuclear weapons. It also prohibits the transfer of information on how to create nuclear weapons to states that don't already have nuclear weapons. Furthermore, this treaty requires that all civilian nuclear plants be accounted for. All fissionable materials are supposed to be openly accounted for. This treaty is the most widely agreed to treaty amongst world powers. In 2000, 187 countries had signed the treaty. As of that year, only Cuba, Israel, India, and Pakistan have not signed the treaty. The treaty also calls for eventual disarmament. If the nuclear signatories don't disarm, the non-nuclear states will feel that they must arm themselves in order to protect themselves. The United States and Russia are both not complying by maintaining large arsenals. One school of thought holds that the other nations should hold to the treaty, as it is unlikely that one could get the United States and other signatories to sign a treaty like it again. Others hold that the treaty isn't working and a new treaty should be constructed with better potential for enforcement.

A second widely accepted treaty is the Comprehensive Nuclear Test Ban Treaty. This treaty prohibits any nuclear tests except those conducted underground. Explosions are also required to be less than a certain number of kilotons. Most modern nations have signed the treaty, but there are exceptions. No open-air tests have taken place since earlier provisional bans on open air testing were established.

Additional treaties exist which prohibit the use of nuclear weapons in space, in the Antarctic, and which attempt to prevent terrorists from getting nuclear material. There are also treaties concerning chemical and biological weapons. In short, the signatories agree not to use or mass-produce them. Chemical and biological weapons are worthy of

note in a section on nuclear weapons treaties because they are also weapons of mass destruction.

A3.1.6 Conference Agenda and Mandate

This section and those that follow are the briefing materials we supplied in addition to the original paper's material during the NCSSSMST conference run.

INTERNATIONAL ATOMIC ENERGY AGENCY
Conference on Nuclear Proliferation
Friday, October 25, 2002, at 8:00 A.M. EDT.

Mandate:
Every five years, the secretary general of the United Nations must make a report to the General Assembly about the current progress being made on the nonproliferation of nuclear weapons. The secretary general has requested the International Atomic Energy Agency to call this conference to advise him on the current state of compliance with the nonproliferation treaty, and if progress is being made toward it. In particular, the general would like opinions about the recent request by the United States to resume testing for nuclear devices that are purely for defense purposes. The discussions and decisions made during this conference will heavily influence the secretary general's report on this matter.

Agenda:

8:00 A.M.	Welcome & Introductions
	Break to confer with delegates about opening statements
8:30 A.M.	Opening statements (maximum of 2 minutes per delegation)
9:00 A.M.	Short recess
9:10 A.M.	Open debate begins
10:30 A.M.	Start of accepting motions for resolutions to be voted on
11:30 A.M.	Adjournment of meeting, beginning of debriefing time

A4. Materials Added for Class Games

These materials are those Jesse Hurley and Prof. Wilkes added for the runs of the games in Prof. Wilkes's class.

A4.1 Chernobyl Game

IAEA Chernobyl Tribunal Agenda

1) Consideration of the situation as presented by the Physicists on site regarding Ylena and the Dust Cloud Threat- is it a Local, Regional or International Concern?

2) What are the reporting responsibilities of an IAEA member nation vis a vis other member and non- member nations in the event of a Radiation Release or an Incident that might result in one?

3) In the event of an accident what will be the rules of access for representatives of the IAEA and other IAEA member nations to the site of an acknowledged or suspected problem to independently access the situation?

4) Once "Need" has been assessed will the IAEA have the right to assess member nations to cover the cost of the cleanup, or must it ask for voluntary contributions? (Will there be a regular contribution to a joint fund, a cap on what can be demanded under emergency circumstances, or will there be a vote in each instance with majority rule?)

5) Will emergency preparedness assessments be levied so that a standing disaster response force is always on call?

6) Will the responsibility the IAEA takes for meeting such crises and helping out member nations or their reactor facility clients be contingent on: a) the degree of fault found on the part of the member nation in bringing about the radiation emergency b) the willingness to submit to IAEA inspections and regulations designed to foster a "culture of safety" in each nation designing and operating civilian nuclear power plants.

7) How much help is IAEA willing to provide to nations that request assistance in establishing a training and operations regime that meets the highest international standards? Will the documented achievement of such standards lower that nation's contribution or assessment to support the emergency preparedness fund?

8) What shall be done about stabilizing the Chernobyl situation at this point? Can the Russian Federation, successor to the Soviet Union be held accountable for damages incurred by other nations or held liable to suit by victims that are citizens of other nations?

9) Under the circumstances will the proposed stabilization project the handled by IAEA or the Russian State and will the necessary resources be "loaned" to Russia to be repaid over time or be covered by a one time emergency grant in aid? (Future crises to be handled by the regulations and funding arrangements now being put in place based on what has been learned from the events surrounding the Chernobyl release.)

UNITED NATIONS
INTERNATIONAL ATOMIC ENERGY AGENCY

November 15, 2002

United Nations
International Atomic Energy Agency
Commission on Chernobyl
Bern, Switzerland

Dear Delegates:

In lieu of the recent work that the commission has completed in its sessions of 13 November 2002, the Secretary General would like to express his gratitude for the movement towards consensus. He wishes to convey his convictions in the urgency of consideration to be granted the attached brief. Detailed in the enclosure are terms of proposals which would aid the international community, and specifically the General Assembly, in determining a course in the issues surrounding the Chernobyl disaster, and in the prevention of future crises relating to nuclear materials technology. It is his belief that IAEA is at a crossroads, and is in a privileged position to forge new routes toward a safer utilization nuclear power and control of nuclear materials. I trust that the agency's special panel will appreciate the gravity of the situation, and will rise to the occasion accordingly.

Sincerely,

Argent Carmichael

Lord Argent Carmichael
Special Advisor to the Secretary General

IAEA Special Commission on Chernobyl
Situation Briefing

Prior Meeting Decisions:

The Consensus is that the plant as it stands is only a regional threat- in terms of a new radiation release. Certainly the other plants at the site would be threatened to the point that they might have to be closed. National energy shortages might result.

> *There was not a consensus that at this time IAEA should step in and permanently contain the Reactor Site at international expense. There was some sense that the most affected and responsible parties should contribute to the limit of their ability and perhaps take on debt to complete the task.*

A proposal was made that the "Safety Regulations and Culture of Safety " of the Nations with Operating Nuclear Power Plants be "graded" and that access to money from an international emergency fund be tied to meeting at least minimal standards. A suggestion was also made that increased spending on accident prevention above that minimum be rewarded by greater access to the fund or more generous terms of repayment. It was not clear whether this fund was to be created by an annual "insurance" payment tied to the number of operating plants with the standards of safety overall (or at each one) factored in, or was an immediate levy to create a reserve for emergency loans to contributing nations, and would not need to grow over time except as standards improved or to compensate for inflation should bank interest not suffice for that purpose.

Session 1 Conclusions: **The Fate of Chernobyl**

The Secretary General of the UN proposes to the IAEA that it consider the story of Chernobyl and the fate of Nuclear Power as a Civilian Industry be inextricably tied. The World is watching to see if the nations with nuclear expertise and capability that want to sell reactors to other nations are a responsible and trustworthy group with sufficient organization to clean up after themselves when things go wrong.

The aftermath of TMI was reassuring to the world at large and still orders for plants were cancelled and in the USA no more have been ordered for 25 years. Only the rest of the world market sustains that industry. The future direction of the technology hangs in the balance based on your decisions here. Will there be a peaceful application of Nuclear Power to the generation of Electricity to help deal with the future energy shortages as fossil fuels rise in price or not? There is more at stake here than the health of the people in the 50 mile radius of the Chernobyl plant.

Session 2 Discussion Point: **What Are Our Future Responsibilities to each Other to Be?**

In line with the UN Secretary General's comments and in order to preserve the future reputation and economic viability of the Nuclear power industry, we Propose that this governing body:

> *Expand IAEA mandate from the UN to go beyond monitoring nuclear facilities and nuclear materials to storing "immediate response "resources needed to deal with radiation releases, managing long term accident containment response efforts in member nations-if necessary and enforcing international regulations.*

Reporting Responsibility

In the event of an accident involving the release of radiation, the IAEA must be informed within 2 hours and must decide whether to inform other affected nations and the general public in the affected nation within 6 additional hours. Only publicly reported accidents can trigger access to the IAEA Emergency Response Force and the fund that pays for it.

Inspections Access

The "insured" nations with potential access to the Emergency Response and Long Term Containment Funds must submit to periodic and unannounced inspections to all facilities present to the IAEA and the World community as primarily "civilian" nuclear industry and research sites.

Sites that are to be considered " disaster areas" or requiring "containment response" will be subjected to continuous on site monitoring by IAEA teams and their representatives.

Timely Assistance

There will be levied an IAEA insurance premium surcharge on the nations that will have access to the Emergency Response Team, which is sufficient to maintain a well equipped team in continual "on-call" readiness with its own pre-arranged transport capabilities.

Agenda, 15 November 2002

The Office of the Secretary General of the United Nations has prepared this brief to direct the International Atomic Energy Agency towards a decision on the scope, responsibilities, and actionable efforts of the international community with respect to the range of issues as specifically presented in the Chernobyl case. These issues are as follows:

1. The continuing and growing liability of a radioactive dust accident compounded by structural deterioration and the imposition of catalytic forces such as the potential fall of the reactor lid, nicknamed "Ylena" requires the drafting of a proposal for action.

2. The long-term solution regarding the issue of containment for the Chernobyl facility must be addressed. Discussion should produce a resolution regarding options encompassing the construction of a replacement to the current sarcophagus.

The following questions may prove useful for directing discussion of the issues at hand:

1. What is the role of the international community in the redress of issues presented by the Chernobyl accident?

2. What are the options available for response to the pressing problems being presented in the Chernobyl case?

Pursuant to the redress of the aforementioned queries, the Office of the Secretary General has afforded two proposals. These proposals are as follows:

Article I:

Chernobyl is an accident of immense human dimension, and the aftermath has a pan-continental scope. In light of this stance, the nations of the world, in consideration of the global effects of the proliferation of nuclear energy technology worldwide, are encumbered with a responsibility to respond to the accident of Chernobyl, and to prevent similar occurrences in the future. Pursuant to this solution, a fund will be established with the aim of providing for the construction of an alternative containment facility.

Article II:

For the future, the provision of an insurance levy against unforeseeable accidents and disaster relief will be resolved. The burden of the premiums of the surety bonds will be borne by all nations seeking insured protection against the potential disasters that arise out of the use of nuclear technologies. The guarantors of the indemnity fund will be those nations which pursue the inclusion of nuclear technology in their national infrastructure, with additional levies imposed on those nations that export technology facilitating the production of nuclear materials facilities.

A4.2 Nuclear Proliferation Game

UNITED NATIONS
INTERNATIONAL ATOMIC ENERGY AGENCY

November 18, 2002

United Nations
International Atomic Energy Agency
Conference on Nuclear Proliferation
New York, New York
United States of America

Dear Delegates:

Considering the diligent efforts of the Agency in preventing the proliferation of nuclear materials and weapons of mass destruction worldwide, the Secretary General would like to express his deepest thanks for the delegations' work on these issues. Pursuant to his address to the United Nations General Assembly, and in preparation for a larger debate on the issues of terrorism and weapons of mass destruction, the Secretary General has convened the Convention on Nuclear Proliferation to be held this evening in New York. Detailed in this enclosure, please find a copy of the Nuclear Proliferation treaty as agreed to by the signatory nations, and effected as of 5 March 1970. Additionally, herein enclosed is a copy of the conference agenda, and copies of draft proposal resolutions to be considered by IAEA for adoption by the General Assembly and ratified into the Canon of International Law by the UN member states. The decisions made through this conference will forge the UN agenda for many years to come. I trust the agency's convention will appreciate the gravity of these issues, and will rise to the occasion accordingly.

Sincerely,

Argent Carmichael

Lord Argent Carmichael
Special Advisor to the Secretary General

UNITED NATIONS • OFFICE OF THE SECRETARY GENERAL • NEW YORK CITY, NEW YORK
FOR THE MILENNIUM: FREEDOM

International Atomic Energy Agency
Conference on Nuclear Proliferation
New York, New York

Mandate:

Every five years, the secretary general of the United Nations must make a report to the General Assembly about the current progress being made on the nonproliferation of nuclear weapons. The Secretary General has requested the International Atomic Energy Agency to call this conference to advise him on the state of compliance with the nonproliferation treaty, and if progress is being made toward it. In particular, the Secretary General would like opinions about the recent request by the United States to resume testing for nuclear devices that are purely for defense purposes. The discussions and decisions made during this conference will heavily influence the Secretary General's report on this matter.

Agenda:

18 November 2002 – Evening Session

6:00 P.M.	Welcome & Introductions
	Break to confer with delegates about opening statements
6:15 P.M.	Opening statements from the Delegations
6:35 P.M.	Moderated Debate on Issue 1: United States & the NPT Departure
7:00 P.M.	Session Adjournment

19 November 2002 – Evening Session

6:00 P.M.	Debate Issue 1 Continuance: United States & the NPT Departure
6:30 P.M.	Resolution Draft Vote: All members are required
6:45 P.M.	Moderated Debate on Issue 2: Nuclear Proliferation & Terrorism
7:45 P.M.	Resolution Draft Vote: All members are required
8:00 P.M.	Session Adjournment
8:00 P.M.	Special Briefing Film: "The Sum of All Fears" Refreshments will be served

20 November 2002 – Evening Session

6:00 P.M.	Resolution Debate: Issue 3: Nuclear Technology Licensure
7:45 P.M.	Resolution Vote
8:00 P.M.	Conference Adjournment & Refreshments

U.N.T.S. No. 10485, vol. 729, pp. 169-175.

Treaty on the Non-Proliferation of Nuclear Weapons (1968)

Entered into Force: 5 March 1970

The States concluding this Treaty, hereinafter referred to as the "Parties to the Treaty",

Considering the devastation that would be visited upon all mankind by a nuclear war and the consequent need to make every effort to avert the danger of such a war and to take measures to safeguard the security of peoples,

Believing that the proliferation of nuclear weapons would seriously enhance the danger of nuclear war.

In conformity with resolutions of the United Nations General Assembly calling for the conclusion of an agreement on the prevention of wider dissemination of nuclear weapons,

Undertaking to co-operate in facilitating the application of International Atomic Energy Agency safeguards on peaceful nuclear activities,

Expressing their support for research, development and other efforts to further the application, within the framework of the International Atomic Energy Agency safeguards system, of the principle of safeguarding effectively the flow of source and special fissionable materials by use of instruments and other techniques at certain strategic points,

Affirming the principle that the benefits of peaceful applications of nuclear technology, including any technological by-products which may be derived by nuclear-weapon States from the development of nuclear explosive devices, should be available for peaceful purposes to all Parties to theTreaty, whether nuclear-weapon or non-nuclear-weapon States,

Convinced that, in furtherance of this principle, all Parties to the Treaty are entitled to participate in the fullest possible exchange of scientificinformation for, and to contribute alone or in co-operation with other States to the further development of the applications of atomic energy for peaceful purposes,

Declaring their intention to achieve at the earliest possible date thecessation of the nuclear arms race and to undertake effective measures inthe direction of nuclear disarmament,

Urging the co-operation of all States in the attainment of this objective,

Recalling the determination expressed by the Parties to the 1963 Treaty banning nuclear weapon tests in the atmosphere, in outer space and underwater in its Preamble to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end,

Desiring to further the easing of international tension and thestrengthening of trust between States in order to facilitate the cessation of the manufacture of nuclear weapons, the liquidation of all their existing stockpiles, and the elimination from national arsenals of nuclearweapons and the means of their delivery pursuant to a Treaty on general and complete disarmament under strict and effective international control,

Recalling that, in accordance with the Charter of the United Nations, States must refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations, and that the establishment and maintenance of international peace and security are to be promoted with the least diversion for armaments of the world's human and economic resources,

Have agreed as follows:

Article I

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other

nuclear explosive devicesor control over such weapons or explosive devices directly, or indirectly;and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other n uclear explosive devices, or control over such weapons or explosive devices.

Article II

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transfer or whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

Article III

Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfilment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this Article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this Article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.

Each State Party to the Treaty undertakes not to provide:

a. source or special fissionable material, or
b. equipment or material especiallydesigned or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.

The safeguards required by this Article shall be implemented in a manner designed to comply with Article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international co-operation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this Article and the principle of safeguarding set forth in the Preamble of the Treaty.
Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International Atomic Energy Agency to meet the requirements ofthis Article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from theoriginal entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.
Article IV
Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production anduse of nuclear energy for peaceful purposes without discrimination and inconformity with Articles I and II of this Treaty.
All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peacefuluses of nuclear energy. Parties to the Treaty in a position to do so shall also co-operate in contributing alone or together with other States or international organizations to the further development of the applicationsof nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world.
Article V
Each Party to the Treaty undertakes to take appropriate measures to ensure that, in accordance with this Treaty, under appropriate internationalobservation and through appropriate international procedures, potential benefits from any peaceful applications of nuclear explosions will be made available to non-nuclear-weapon States Party to the Treaty on a non-discriminatory basis and that the charge to such Parties for the explosive devices used will be as low as possible and exclude any charge for research and development. Non-nuclear-weapon States Party to the Treaty shall be able to obtain such benefits, pursuant to a special international agreement or agreements, through an appropriate international body with adequate representation of non-nuclear-weapon States. Negotiations on this subject shall commence as soon as possible after the Treaty enters into force. Non-nuclear-weapon States Party to the Treaty so desiring may also obtain such benefits pursuant to bilateral agreements.
Article VI

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms raceat an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

Article VII

Nothing in this Treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories.

Article VIII

Any Party to the Treaty may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circulate it to all Parties to the Treaty. Thereupon, if requested to do so by one-third or more of the Parties to the Treaty, the Depositary Governments shall convene a conference, to which they shall invite all the Parties to the Treaty, to consider such an amendment.

Any amendment to this Treaty must be approved by a majority of the votes of all the Parties the Treaty, including the votes of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. The amendment shall enter into force for each Party that deposits its instrument of ratification of the amendment upon the deposit of such instruments of ratification by a majority of all the Parties, including the instruments of ratification of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. Thereafter, it shall enter into force for any other Party upon the deposit of its instrument of ratification of the amendment.

Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realised. At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depositary Governments, the convening of further conferences with the same objective of reviewing the operation of the Treaty.

Article IX

This Treaty shall be open to all States for signature. Any State which does not sign the Treaty before its entry into force in accordance with paragraph 3 of this Article may accede to it at any time.

This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United Kingdom of Great Britain and Northern Ireland, the Union of Soviet Socialist Republics and the United States of America, which are hereby designated the Depositary Governments.

This Treaty shall enter into force after its ratification by the States, the Governments of which are designated Depositaries of the Treaty, and forty other States signatory to this Treaty and the deposit of their instruments of ratification. For the purposes of this Treaty, a nuclear-weapon State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January, 1967.

For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification oraccession.

The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession, the date of the entry into force of this Treaty, and the date of receipt of any requests for convening a conference or other notices.

This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article X

1. Each party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

2. Twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to theTreaty.

Article XI

This Treaty, the English, Russian, French, Spanish and Chinese texts of which are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

In witness whereof the undersigned, duly authorised, have signed this Treaty.

Done in triplicate, at the cities of London, Moscow and Washington, the first day of July, one thousand nine hundred and sixty-eight.

Proposals for Discussion

- Strengthening the verification system to ensure that States take their non-proliferation obligations more seriously;
- Security Council reform to enable the Council, through clearly defined 'rules of engagement,' not only to respond but also to prevent threats to international peace and security;
- A broader definition of the concept of threats to international peace and security, to encompass not only military threats but also threats that relate to the lack of good governance, the desperate need for economic and social development and the denial of human rights;
- A functioning mechanism for the settlement of disputes — including as appropriate the resort to international adjudication and arbitration;
- A smart system of sanctions for dealing with non-compliance, adaptable to different regimes and different situations;
- Readily available and better equipped UN forces to contain and manage incipient disputes; and
- Agreed limitations on the use of the veto power in the Security Council.

A5. Game Notes

I have provided here a typed and slightly cleaned up version of the original notes I took while running and observing games. It is provided as the raw data of the students' engagement, as well as to give an idea of the typical resolution of the game. Some of the notes were hastily written while trying to keep order over the proceedings themselves, but the general ideas are still here.

A5.1 Mass. Academy

Russia — Severely displeased – resumed testing. Why proliferate – attempted to abide
England — violating spirit
— want to get rid of weapons, even defense
China — spirit violated – antagonize
India — agree U.S. violates treaty – causing arms race
Taiwan — if they choose, smaller nations break as well for defense – terrorist attacks not cause for nukes.
Iran — fully support nukes for defense
— requisition from S. Africa or Russia
S. Africa — support advancement of testing – scrap current treaty
Israel — Country needs to secure security. Stop Iran, Syria.
Must do what it has to do
Treaty changed before; it's old
Pakistan — nukes okay for defense – would be attacked – one defense
U.S. — not sell nor transfer nukes.
eventual disarmament
was a good treaty until 9–11
need for defense
Not just us – different world – treaty not working
Form a new treaty – allowing nukes for defense – testing
France — if 1 country has nukes, others will follow
1-upping – "Seat of God"
stop it all – or allow it all
Pakistan — Amend treaty – assure smaller countries not attacked.
MAD (India & Pakistan) works (U.S. & Russia)

Israel — treat is people, not countries
Pakistan sponsors terrorists
Opposed to ending program
S. Africa — stop charade
Allow all nations to have nukes
France — conspiracy
U.S. — Only us get defenses
Taiwan — Can't nuke in war on terrorism

Israel & U.S. — "Responsible nations" can keep nukes
Others — Nukes bad

Proposal: Security council gets nukes, others don't

Refuse permission for U.S. to resume.
But, U.S. can just do it anyway

ABM flawed.

Success of current treaty: should work, needs to be enforced. Discourages U.S.

Debriefing:

- Would have likes the briefings earlier
- more interested in this topic now
- in class, would give more of a motivation to use
  Some info & more research
- Should give opinions to represent more clearly
  Background material on character good
- More time in morning to read briefing

A5.2 NCSSSMST Nuclear Proliferation Game

— Briefing papers – not covering point of conference. Not clear enough – or not read

Israel — U.S. should clarify terms
U.S. — Current treaty not working
England —
Pakistan — supports U.S.
(Break: greeting both in & out of role)
India — new proposal
S. Africa — economy depends on it
Iran — community needs to work together
U.S. — not safe to disarm, not support Security Council enforcement
Israel — other nations would follow U.S. – treaty would be useless
Pakistan — no guarantee other nations will disarm, security council enforces
Iran — what are real intentions?
England — nations would be threatened by U.S., focus on nukes

China — yield to France — revise treaty, yield to China — give up some weapons
Taiwan — stop nuclear war, revise – need to narrow treaty.
Yield to Russia — is noncompliance okay? address each country, stronger reduction
France — yield to China — amend it
Pakistan — will be hard to get nations to sign – show world that it's safe to disarm
yield to N.G.O. — Prof. Wilkes speaks,
yields to Pakistan — Enforcement out of Security Council
Israel —
France — U.S.'s star wars forces other countries to do the same – Creating another cold war. Yield to England — same way, missile defense won't help.
Yield to France — damaging peace & prosperity
Yield to England — good intentions – bad results
Yield to U.S. — Fully backing acts vs. rogue nations
Yield to Russia — other ways
England — focus on nukes
S. Africa — nuclear weapons – what kinds of revisions? – Uranium is big export… if powers gone, economy flounders. – Consider trade for non-violent power, medicine – Money to reduce losses
Yield to N.G.O. — hoping nations benefiting should compensate
China — China, Russia, & U.S. drafting resolution
Yield to Russia — resolution to Secretary General – need committee to keep track of rogue nations. – U.N. seek out rogue / terrorists in exchange for U.S. to not build defense up.
Yield to China — nukes can be fought with conventional weapons
Pakistan — okay if study progress make
India — other weapons (bio. & chemical) part of issue as well – Investigations of bio. & chem. part of resolution
Yield to England — focus this part on nukes, most productive. Yield to India.

Vote on if we should add bio. & chem. to the agenda: passes 9–1

Iran — line between defense & …
Japan — Countries should share tech.

Proposal – resolution – not specific, lists actions that need to be taken

Debrief comments:
Research beforehand
Specific Goals
Game said – improve acting
Using in Social Studies games
    War simulator from National Defense
    Brings a lot of insight
    Mirrors real life – same chaos
In a class, own research
Better formulate question

Focused question – limited, detailed debate
In a regular class, some people not going to participate as vocally
Studying effective tool
Getting info across – what about people make appropriate
Time – yielding a crutch
Kids will get into it
Bogged down in back-and-forthing
Cool to be someone else, but a little confusing
Quota (requiring someone to speak so many times) for a grade a bad idea
Format makes it hard to say things that are immediately revelent
Maybe hand out relevant Robert's Rules
Learned a lot about India–Pakistan.

A5.3 NCSSSMST AEGIS Game

Brazil — working with China
2 hr. before
60 yrs. to meet challenge
if use nukes, 45–50 yrs. – controversial
militarily sensitive tech.
lots of power – in the wrong hands, bad thing!
unsure how big a commitment
no consensus on organizational structure
Secretary General wants a new agency for the problem

Some delegates look bored/tired
Initial start sluggish... people unsure of what to say, no movement

Debate on funding of diff. countries. U.S. big, Brazil small

Nobody very talkative... building though

U.S. – move people to space
"Cause for world to unite under" – Russia's diplomat
China agrees; Russia: Research goes faster with a goal
U.S. – Goal should be space exploration

Major world issue – affects every nation
worthy goal for every nation
– Y. Budhus, Dir. of Office of Space Science & Applications for RSA

U.S. NASA:
Exploration gives better idea of asteroids
Lower cost of identifying them: 600 million dollar cost down to 30 million
"NASA has limited resources" – L. Peterson
Working on finding asteroidsrather than deflecting/destroying them

Starting to get into it for opening statements
– breaking out to other rooms (once Prof. W. said to)

U.S. meeting in hall to side, then meeting in Library with (Japan?)

"Near Earth Objects" – fancy word for asteroids about to hit Earth

Brazil & Arab (Saudi Arabia, Egypt) off record creating new space agency

Nations conferring with others

Russia:
Very important, pressing issue
affects everyone
everyone should support
Russia should take charge!
15 yrs. to research sky
50 yr. project
Start now!!!
work faster when going toward a goal
cost $400M (to scan skies)

ESA:
Process immediately; is necessary
tech. needs more development
$300–400M for initial research to make estimate
need more research to estimate time
SpaceGuard is in Italy, in position to guide research

USA:
important; move on
"time is a variable"
research good already to scan skies
NASA non-military; prefer non-nuclear
50 yrs. to develop technology, maybe longer
NASA interested, U.S. might not be

Japan:
Agree with Russia
15 yr. survey to check for asteroids
$500 million on survey
no nukes if possible
concurrent detection & deflection

China:
Prob. in 100 yrs. very low, but large meteor → wipe out everything, & all money

should spend lots of time, effort, money, resources
We do a good job... Russia shouldn't leave

Looks like easy to spend $300-500 million for Space watch scan, 6–8 or 10–15 yrs.
10 yrs.

Brazil, Saudi Arabia, Egypt forming new organization, IESA (Equispace)
with Russian & Chinese support

Fund SpaceGuard to complete mission:
China: Yes
Japan: Yes
USA: Yes
ESA: Yes
Russia: Yes
Equispace: Yes

Deflection:

Nuclear?
Manned? (20 times as expensive)

Equispace (off-record):
Drying oil reserves → satellite microwave power
"We need a space program" – Arab nations
These 3 for convenience – Egypt & S.A. have many
Brazil has infrastructure
S. Africa, India
Based on their need – attach to global
what can they bring
Russia has most tech. U.S. hasn't spent money on this problem
Auction off European countries

ESA doesn't want to speak to the press

P. Martin, from France:
Conference is a waste of effort
Research – don't take expensive action

General animosity for the press

Require prompting on what to talk about, but represent countries well.
Some people quiet, of course... in a class would probably be more...
need to get everyone involved
– reason for breaking into small groups.
Few vocal speakers doing job well

in a class, would need more
Easy to identify vocal speakers...
Do others get as much out of it, just by being immersed in it?

Need prompting to go around table and get representatives from each country to speak.

Some people not really participating

Definite rushed schedule

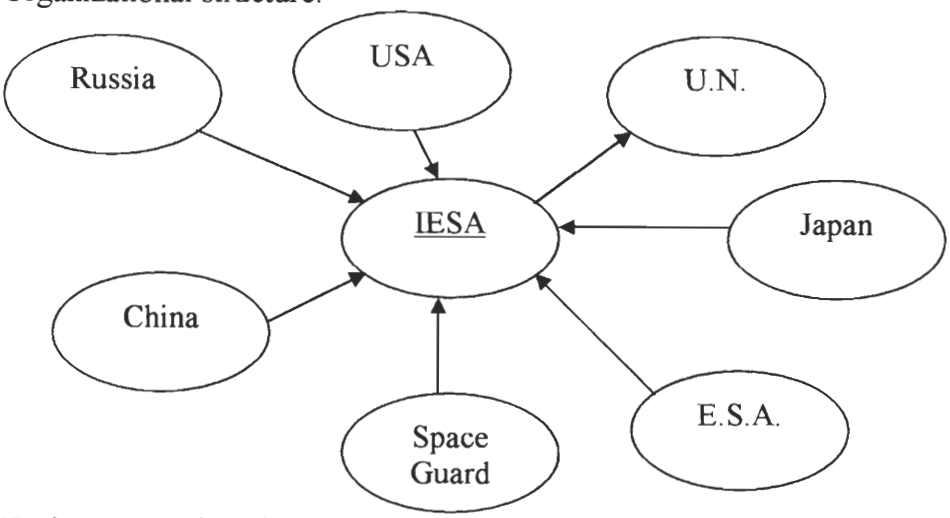
Europe, Japan, U.S.: Non-nuclear, unmanned
China: Nuclear-assisted device
Russia: Unmanned, non-nuclear – don't like NAD

Asteroid is threatening – making weapons for defense

"Defensive weapon is an oxymoron" – China

More of same... same speakers, others quiet/bored/tired

Organizational structure:



Each country given its own research program
For example, China would work on the nuclear option, Space Guard would handle the survey of possible asteroids.

Europe doesn't see need – SpaceGuard instead

U.S. – Military had it

A5.4 Chernobyl Game in Class

A5.4.1 11/13/2002

CIA tribunal on Chernobyl incident
pick up on issues left
– does further action need to be taken?

Questions to be answered:

- What needs to happen
- IAEA? someone else?
- Responsibilities of other nuclear-capable nations
- Who pays?

What's the 1st (most important) issue?

→ People in general seem to be engaged – maybe helps that it's not at 8am ☺
→ Briefing on couple videos being made by people who saw them to people who didn't

Wormwood — leader of Russia didn't know for 36 hours that Chernobyl had happened.
Other surrounding area, countries (Sweden) very affected – "hot spots" still around today.
Livestock affected.
radioactive meat needed to be destroyed
likewise in Italy
Russia – lackadaisical attitude

Russia denies (& denied) health problems
→ Couple people look bored; in general high attentiveness
increase in leukemia, birth defects
mixed contaminated with uncontaminated food

Initial consensus – Will IAEA's help be a function of the degree of nation's fault, submission to IAEA inspection, degree of safety, & vendor of power plant

Russia — issue 7 – prevention, rather than reaction
Switzerland — need funding discussion before others
Russia — Should have strict regulations as a gauge... a code to be encouraged & graded on. Countries with better grades should pay less since they are less likely to have an accident. IAEA establishes standards & rating that affect the "insurance" rates/dues.
USA to Russia — who oversees?
Russia — independent committee, maybe part of IAEA

→ Very few people talking, although those who are talking are quite involved

Israel — limit to civilian nuclear power programs
France — shouldn't assume a monetary fund
USA — what about spent fuel?

Switzerland — forcing countries to spend money on dues instead of improvements
Russia — no incentive to cut corners

→ Now in familiar trend of a few people talking, rest staying quiet – like any class, really
→ How to get more people to interact?

Israel — inspectors = spying. want to limit to civilian power plants

Vote to restrict to civilian power plants (as opposed to ones designated for military use): passes 7–6

Press talking with Russia:
On being lackadaisical: No comment
Different leadership now
Don't want another Chernobyl
Prevent nuclear meltdown
Focus on nuclear safety

Press talking with France:
Not assume monetary fund
Look at other possibilities

Press talking with Israel:
On restricting to civilian power plants
Keep peace – inspection of military ones could lead to war
Don't want info revealed to Palestine

Press talking with South Africa:
No Comment
→ Seemed quite uncomfortable

→ U.S. & England having lively debate during break

Ukraine — inherited big problem from former USSR
Situation bad, need money & materials
Israel — not simply funding for current cleanup, but learn from it
Iran — don't require contributions to Ukraine
US — likewise
Egypt — only 1 nuclear civilian facility, Soviet supplied. International problem, we all should team up & help
England — Agrees with Iran
India — Primarily Russia & Ukraine, would be willing to provide additional support as needed

→ Possible answer: Going around room (like we just did), requiring each country to give a statement

A5.4.2 11/15/2002

Review of last session
Do you endorse broader view of mandate?

→ A tad of a sluggish start – to be expected, but makes 1 hour sessions somewhat less useful

Extend inspections from Military to Civilian nuclear energy programs?
(Very little discussion)
passes 9–3

Question 2:
What are future responsibilities?
Reporting responsibility: 2 hours to IAEA, 6 more hours to report to public or other countries
England – Should release funds immediately, deal with countries later… a loan after 2 hours
China: amendment: must inform, regardless: 5-6 fails
Motion as stated: 12-0 (1 abstain)

Straw vote (non-binding) on inspection access: 7–6 passes

Iran — opportunity to enter regular world… currently on outside – want friendships – encourages trade good… by showing others willing to play by same rules
No power plants yet… then matter discussed
nature of inspection – unclear – undecided

→ One person can steer the entire meeting

A5.4.3 11/19/2002

Review: Country informs IAEA in 2 hours
Does IAEA have authority to tell people in the country the incident occurred in?
Can funds be used for a "standing army" of emergency response team?

Russia — reporting should be done by country itself. When a country reports, could choose to decline funds, then IAEA wouldn't have authority to report to people

U.S. — reconsider Chinese vote

Will insurance fund be able to be used to maintain an emergency response team?
Pakistan — Prorate cost based on number of facilities & safety standards

Russia amendment: Country with disaster must choose whether or not to use funds. By declining to report, are declining funds.
4–8 fails

Insurance fund for ~~standing army~~ standing support personnel?
Timely assistance – no structure yet

Inspections Access: 11–3 yes
Timely assistance: 11(?)-3 yes

Iran — non-aggression with Israel proposed

A5.4.4 11/20/2002 – Debriefing

Discussion of Dyson's *The Sun, the Genome, and the Internet* in class before debrief time. Students each have something to say, and students seem engaged in it.
→ Really, games probably need to be mostly just a supplement to a more traditional curriculum. People **do** learn from book – understand author's point

China ? ? ? ? ?

Are we going to pool resources?

Technical role wasn't very relevant
Everybody should take an interest.
Russia/Ukraine need help

U.S. can push other nations around

Character suggested should help world. Self: can't fix everything

Some have differences, some don't

Support world-wise help: 9 yes's, 2 no's

A5.5 Nuclear Proliferation Game in Class

A5.5.1 11/18/2002

For this day, I needed to step into the role of the delegate from the United States, and therefore didn't have much of a chance to take notes on the students and how they were reacting

A5.5.2 11/19/2002

Physicists for Social Responsibility (PSR) — Wouldn't be possible today to sign what we have now. Can't start over. Change is dangerous

→ People not very active
→ Couple people talking in small groups
→ not very focused sometimes… helps to have an authority-person leading
→ ★ if you break into small groups in a class, need a teacher/aide in each group

→ Now, groups starting to get into it

Terrorism:
Security standards for materials
Need to reduce/eliminate reactors that can make this sort of material

Issue #1: Progress by U.S. & treaty in general:
NTP not a waste of time and effort – stability worth effort that we put into it

Vote: Is U.S.'s recent action defense or offensive or stabilizing?

Almost everyone speaking against U.S.
U.S. not speaking

Offensive/destabilizing 4–4 tied

U.S. didn't have any new points – no advisors
Revote: 7–1 "Actions of U.S. are destabilizing, could be seen as offensive instead of defensive"

Issue #2: Nonproliferation & Terrorism
Committee – Security standard for current stockpiles, transportation, accounting, oversaw by IAEA. Reduce/Eliminate reactors that produce weapons-grade material. Would require replacing some of existing infrastructure

→ Getting into it more now – longer session allows people to get into it more

If a country misplaces weapons-grade material, investigate to see where it's going… an investigative committee

Ukraine — Let IAEA inspect everything
England — Can't inspect military sites

U.S. — Iran no longer an axis of evil
U.S. — diplomatic change – many people in nation support U.S. Better to maintain diplomatic relations than to cut them off

Develop spec. for current stockpile, transportation, inspections, etc… of nuclear material
Vote: passes 7–0

Eventual reduction of all weapons-grade materials: Vote: 4–5 fails

Amendment by U.S. Nations that lose nuclear weapons grade material subject to inspection to investigate the problem: Vote: passes 6–3

Amendment by Ukraine: Expand IAEA power, to inspect all sites, civilian & military, and any sites suspected. IAEA charged with keeping track of it all

Iran against it, U.S. agrees.
Egypt, Ukraine — Shouldn't hide anything, need to keep track of it all.
Vote: fails 4–6

A5.5.3 11/20/2002

Issue #3: Technology Licensure
First – progress so far

U.S.: Announces Iran no longer part of Axis of Evil… Opening up relations

China: "What is it that Iran has that you want?"

Make Technology Licensure:
Not sale, but lease, to NPT signers only – vendor country responsible. Will train native operators, if violation by buyer, seller reports to IAEA. Once technology transferred, can't be used for military use. Shut down contract if used. Operators must be licensed by IAEA. If disaster occurs, seller responsible for cleanup

→ Seemed to get into it more quickly this time
→ Head delegate of Iran quite enthusiastic

Ukraine (privately with press) — demand complete disarmament of all warheads… Small nuclear force under international control, vote by nuclear powers.
U.S. Shield → world shield

France: "We do not have a hidden agenda?"

Fundamentalist riots in Iran by people disgraced by Iranian delegate's deal with the U.S. & they renounce it fully
Change of head of delegation of Iran

Nuclear Tech. Licensing Resolution:
Sale prohibited, lease non-military nuclear technology for plants lifetime to countries in NPT. IAEA, in good standard with countries in international AEA.

France — pass all at once, or not at all (passed by friendly amendment)
China — allow sale to already-nuclear IAEA nations non-already-nuclear IAEA require lease. 5–6 fails.

All operators: must pledge to NPT & be IAEA-approved. Responsibility on vendor country (run under IAEA standards)

France — All country-specific standards, if approved by IAEA (accepted by friendly amendment)

IAEA must intervene to assist vendor nation if it loses control (material used elsewhere, etc...)

Amendment: Buyer may ask IAEA to investigate vendor on safety & security (passes by friendly amendment)

Overall vote: passes 7–3

Status on moving toward NPT?
Russia: Making progress
U.S.: Agrees
France: Me too! Takes a lot of time

Vote for taking a break: 6–1

Egypt: Iran's relationship with U.S. hindering progress

Moving toward NPT spirit?
Ukraine — Total disarmament! BUT Russia, U.S. China don't want it... Progress by those nations is a façade.
Israel to U.S.: "Can we have some nukes? Please?"

Made sufficient progress? 5–4 (2 abstain, + China) passes